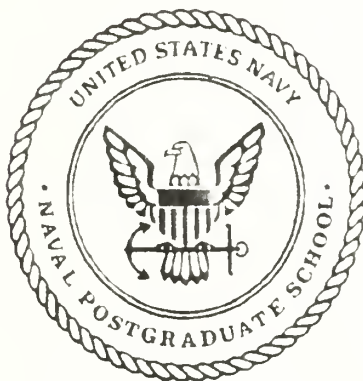


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THESIS

SIMULATED NEGOTIATIONS:
A MEASURE OF THEIR EFFECTIVENESS
ON NEGOTIATED OUTCOME

by

Robert John Bennett

December, 1991

Thesis Advisor:

David V. Lamm

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Simulated Negotiations:
A Measure of Their Effectiveness
on Negotiated Outcome

by

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Submitted in partial fulfillment
of the requirements for the degree of

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ABSTRACT

This research sought to determine what, if any, effect the buyer's engaging in preparatory simulated negotiation has on the negotiation outcome. If it were found that the buyer's engaging in preparatory simulated negotiation resulted in a significantly improved negotiation outcome during the actual negotiation, then the conduct of such preparatory simulated negotiation in DOD could enhance negotiator effectiveness. Toward making this determination, 139 negotiations involving students, Government, and industry participants were conducted at three schools, four DOD activities and four defense contractors' facilities. The data collected from these negotiations included not only the prices negotiated, but also a qualitative assessment based on the respondents' answers to questionnaires. These data were then processed and analyzed using established statistical methods. Based on these analyses, it was concluded that buyers engaging in preparatory mock negotiation improved the negotiation outcome.

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I. INTRODUCTION

A. OBJECTIVES OF THE RESEARCH

Negotiations play a significant role in the acquisition of goods and services not only in the Department of Defense but also within the commercial world. The importance of procurement negotiations in providing these goods and services suggests the need for a continuing effort to improve negotiation effectiveness and thereby to improve the results attained through negotiations. Considering the numerous variables that affect negotiating effectiveness, most people agree that preparation is by far the most important prerequisite to effective negotiation. No amount of experience, skill, or persuasion can compensate for the lack of preparation. One approach that has an intuitive appeal in preparing for negotiations is the use of simulated negotiations. Accordingly, the objective of this research is to determine the effectiveness of simulated negotiations as a preparatory technique in preparing for contract negotiations.

B. STATEMENT OF THE PROBLEM

Negotiation is of crucial importance in Department of Defense acquisitions. The selection, training, preparation, and performance of contract negotiators by the Department of

Defense have been continuing concerns, as indicated by the Report of the Commission on Government Procurement in 1972.

[Ref. 1] Furthermore, the preparation by the negotiator is considered by a number of writers to be the key element of negotiator effectiveness. Further, simulated negotiations were found to be potentially prominent among various preparation techniques. However, heretofore, the Department of Defense did not have available a credible and indicative measurement of the effect of simulated negotiations on negotiation effectiveness. Availability of a definitive study showing the proven effectiveness of simulated negotiations, it appeared, might well provide the basis for enhanced Department of Defense contract negotiator performance.

Accordingly, it was the purpose of this research to explore, through an experiment, the use of simulated negotiations by the buyer and to determine what effect, if any, the use of this technique had on the negotiated outcome.

C. SCOPE OF THE RESEARCH AND ASSUMPTIONS

As indicated above, this research sought to measure the effects, if any, of simulated negotiations employed by the buyer on negotiation effectiveness as measured by price. Additionally, this research sought to identify those factors in the simulated negotiation process which enhanced the preparation for actual negotiations. This research did not

attempt to determine the effect of other variables of negotiation effectiveness, such as those structural, physical, issue, or other negotiator variables identified by Rubin and Brown. [Ref. 2] Moreover, it did not attempt to measure the effects of personality characteristics on the negotiated outcome. Further, this research did not attempt to measure the effects of simulated negotiations on negotiation effectiveness when such effectiveness is defined as other than price. (Although, in light of the effect on price, one could extrapolate what the effects would be on other negotiation outcomes, e.g., other terms and conditions of the contract.) Finally, this research focused on negotiation as it was found to be employed in obtaining contracts with business organizations. It did not consider other negotiations, e.g., labor negotiations, although the results of this research might apply equally or similarly to those negotiations.

Throughout this thesis, it is assumed that the reader has a basic working knowledge of the negotiation process.

D. LIMITATIONS OF THE RESEARCH

This research was limited principally by the practical impossibility of identifying and controlling all variables affecting negotiating effectiveness. Those elusive variables included:

- those associated with the experimental environment being contrived in lieu of the actual environment;

- those associated with the physical aspects of the negotiating environment and the differences between the negotiating environments at each of the locations at which the experiment was conducted;
- those associated with the differences in age, education, and experience among the participants within and among the participating activities;
- those associated with other, unrecognized factors.

E. THE RESEARCH QUESTIONS

The research question was:

1. What are the key factors associated with the use of simulations in preparation for actual negotiations and how might these factors be used to enhance the preparation for negotiation?

The subsidiary research questions were:

1. What is a simulated negotiation and to what extent has this technique been used?
2. What is the underlying rationale for using the simulated negotiation technique?
3. What are the key factors that can be identified as an integral part of the simulated negotiation technique?
4. How effective is the use of the simulated negotiation technique in preparing for actual negotiations?
5. If an impasse occurs during the negotiation, what are the principal reasons for such an impasse?

F. ORGANIZATION OF THE RESEARCH

Chapter II discusses the theoretical structure of the research. Included in this chapter is a discussion of various

techniques used to prepare for contract negotiations as well as discussing the relative value of simulated negotiations.

Chapter III describes, in detail, the basic design of the research. Included in this chapter is a description of the initial field study that was conducted as well as the revised experiment. Additionally, the chapter explains how the research design attempts to overcome some of the problems encountered in the earlier research experiments.

Chapter IV presents and analyzes the data based on the data obtained on the final negotiated price from the control, simulation and actual negotiation rounds. The data are presented in several tables and are analyzed in both the aggregate and by specific group - student, Government, and industry.

Chapter V presents and analyzes the results from the questionnaires that were used during the experiment. The questionnaires, which included 5 point Likert scale questions and open\close ended questions were designed to obtain a qualitative measure of the effectiveness of simulated negotiations. Each question from the Post Simulation Questionnaire is presented individually, and a tabulation of the responses is presented in a table. The results from the open ended questions are presented and analyzed in a more descriptive format.

Chapter VI presents and analyzes the responses made by the participants during their interview with the researcher. Each

question is presented individually and the responses are listed according to the respondent's respective group, i.e. student, Government, or industry. Finally, Chapter VI examines the results of the impasse scenario.

Chapter VII presents major conclusions and recommendations by the researcher based on the results. The chapter also provides brief answers to the research questions and suggests ways in which the experimental design could be improved. The chapter concludes with suggestions of areas for further research.

II. THEORETICAL STRUCTURE

A. INTRODUCTION

This chapter will begin with a discussion on the importance of the negotiator and negotiations within the Department of Defense acquisition process. Following this discussion, the chapter details the importance of preparation as a key factor for successful negotiations and describes the value of role playing and simulated negotiations as valuable preparatory techniques. The chapter concludes with a description and an analysis of the first known experiment designed to measure the simulated negotiation effect.

B. THE ROLE OF NEGOTIATION IN DEPARTMENT OF DEFENSE ACQUISITIONS

Negotiations play a significant role in the acquisition of goods and services by the Department of Defense. During Fiscal Year 1990 alone, the Department of Defense expended a total of 144.6 billion in acquiring goods and services [Ref. 3]. Of that total, 122.9 billion were acquired through the process of negotiation. From another point of view, that 122.9 billion represented almost 12.9 million acquisition actions accomplished by means of negotiation [Ref. 4].

To the average lay person, Government contract negotiation is considered to be limited to initial pricing and agreement of terms and conditions. [Ref. 5] In fact, however, negotiation plays a far greater role in Department of Defense Acquisition. Indeed, the following, although by no means an exhaustive list, is exemplary of the areas in which the Department of Defense and the contractor negotiate before award and during contract administration. [Ref. 6]

1. The price, terms, and conditions of the original contract.
2. Contract interpretation after award.
3. Adjustments pertaining to Government furnished property, facilities, and special tooling.
4. Changes in delivery points, drawings and specifications, and the equitable adjustment pertaining thereto.
5. Variations in quantity.
6. Determinations as to whether items produced satisfy the specifications.
7. Price revision under redetermination, escalation, and incentive provisions.
8. Problems associated with the acceptability of individual items of cost under cost-type contracts.
9. Negotiation of overhead rates for cost-type contracts.
10. Acceptability of accounting, inspections, and purchasing systems.
11. Approval of "make or buy" programs and individual subcontracts.

12. Negotiation of problems in connection with the patent and technical data provisions of the contract.
13. Termination settlements and problems associated with the disposal of property.

The range and magnitude of the role that negotiation plays within the Department of Defense acquisition is great. The degree of effectiveness that the Department of Defense attains in its acquisition related negotiations significantly affects, cost and otherwise, the accomplishment of its mission to provide for the defense of the United States.

C. THE ROLE OF THE NEGOTIATOR IN DOD ACQUISITIONS

Within the Department of Defense, the negotiator may, depending on what aspect of the contract is being negotiated, be the procuring contracting officer, the cost/price analyst, the legal representative, or any of several technical personnel. During the performance of the contract, the negotiator may be the administrative contracting officer, the auditor, an inspector, a property administrator, a security representative, or any of a host of United States Government personnel concerned with the performance and administration of the contract. [Ref. 7] In this research, concern was focused principally on the procuring contracting officer, the price analyst, the administrative contracting officer, and the

career negotiator--in other words, those personnel who assume a role of leadership in negotiations.

Entrusted to each of these negotiators was the responsibility to maximize the interest of the United States Government with respect to national defense; [Ref. 8] and upon these same negotiators was found dependent, in large measure, the defense capability of the United States. Therefore, negotiators in the Department of Defense were found to play an extremely important role in the acquisition of goods and services.

From a somewhat different perspective, Procurement Associates, Inc., speaking as a contractor, added support to the view that the negotiator is critically important by stating,

In no other procedure does so much money change hands based on the ability of single individuals as it does in negotiation. In Government contracting, particularly, a negotiator can make or break the company. He is the most important profit center the company has. He should be chosen, trained, and treated accordingly. [Ref. 9]

Essentially the same statement might well be made regarding the contract negotiator in the Department of Defense. He or she is critically important.

D. PREPARATION: THE KEY FACTOR IN SUCCESSFUL NEGOTIATIONS

One of the truisms of negotiations is that the team that plans the best generally wins the negotiation, or at least comes out more favorably. It has been said that at least 90

percent of success in negotiations is due to thorough preparation. [Ref. 10] The fact remains that if one adversary in a negotiation has distinctly more knowledge and is much better prepared than the other, it is likely the former will get the best of the bargain.

One of the most important points of negotiation is that the team that obtains more of their objectives after a negotiation is generally the one that was better prepared. The reverse is also true. If an opponent comes out best at the end of a negotiation it is usually because the negotiator was not prepared. Just as in life, sometimes in negotiations the opponent will do something that is beyond the control of the negotiator. If the negotiator was well prepared and still loses, that is okay. But if the negotiator was not prepared and loses, then that is inexcusable. The important point is that negotiators must be more prepared, every time, than their opponent. If a negotiator is always more prepared than his opponents, he will win more negotiations. [Ref. 11]

In many endeavors, preparation is the key element of success. In no area is this more true than negotiation. During a negotiation one cannot always control the opponent. However, one can always control how much they prepare and how good that preparation is. In sports, for example, and especially in boxing, it is important that the athlete do his or her own "roadwork." No one can run for a boxer. If the

boxer does not run, or "cheats" on his running, no one can help him when he gets into trouble during a bout.

Likewise, the negotiator must do his or her own preparation. It is not possible to pick up all the information, read it the night before, and walk into a negotiation the next day and expect to command the negotiation. The negotiator must know how all the data, facts, figures, and so forth were determined in order to support his or her position. The negotiator must know which information is the strongest and which is the weakest. Therefore, all negotiators should do their own "roadwork" to avoid trouble in the negotiation.

The following sections describe various preparatory techniques that negotiators can use to do their "roadwork" before a negotiation.

E. ROLE PLAYING AS A PREPARATORY TECHNIQUE

According to William F. Morrison, author of The PRE-Negotiation Planning Book, "If a picture is worth a thousand words, then one role-play will prevent thousands of mistakes." [Ref. 12] The essence of this quote is to practice the negotiation in order to avoid mistakes during the real thing.

Numerous individuals such as Karrass, Nierenberg, Lee and Dobler, have studied and reported on the negotiation process for many years. Burt reports, however, that unfortunately, virtually all the research and the literature dealing with

negotiating focus on the process itself or on the desirable attributes of a good negotiator. [Ref. 13]

Simulated negotiations have long been used in preparing for labor contract negotiations. Dale Yoder, writes:

...both firms and unions use workshops and practice sessions--'simulations,' in more sophisticated terms--with mock sessions and role playing to provide training and preparation for their negotiations. [Ref. 14]

Forsini, Shaw and Blake reported that, through the simulated negotiation experience, union representatives become aware of many potential issues and controversies that are not readily apparent on the surface of a negotiating situation. Thus, they become forewarned and prepared to handle these situations. [Ref. 15]

The process of simulation also is used in preparation for court room trials. Nierenberg cites the following quotation by noted trial lawyer, Mr. Lloyd Stryker, author of The Art of Advocacy:

I often simulate the witness and ask one of my associates to cross-examine me and to unhorse me if he can. It is a great experience, in the performance of which I have often found that I did not do so well as I had hoped. My failures and reasons for them are discussed, and I now ask my associate to change places with me and then I cross-examine him. From this, new ideas are developed. [Ref. 16]

Morrison suggests a similar approach in preparing for contract negotiations. He suggests that the negotiator ask a peer or their boss to take the part of the opponent and to

practice the negotiation with them in a role play. The purpose would be to find all of the weak points in the negotiator's plan.

He further suggests that an even better idea would be for the negotiator to find a person in their organization who performs the same functions as the person they will be negotiating with. For example, if the negotiator is a buyer, they should ask a seller in their company to role-play with them. The rationale is simple. In general, people in purchasing do well in performing the role of a buyer, but not very good as sellers because they approach the seller's position from a buyer's perspective. Their value system is not the same. The converse also holds true.
[Ref. 17]

If this second approach is not possible, Morrison suggests the following idea which he received from the purchasing manager at a large plant in the Midwest. The manager was planning the negotiation for the most important commodity they purchased. There were eight buyers in the department at the time. The purchasing manager called all of them into the office and said something like this:

We have a very important negotiation scheduled for two months from now. Before we do our final planning I want to role-play the negotiation. You four buyers will form the purchasing team and you four buyers will form the sales team. [When the purchasing manager made these assignments, the manager did the key thing--putting the buyer who would actually negotiate with the company's supplier on the seller's team for this mock negotiation.]

The role-play will take place in my office in two weeks. You can use any information you want. After the mock negotiation, which will last from 3:00-6:30 or so, we will have a cookout.

During the two-week period the buyers worked hard preparing their respective sides.

The mock negotiation started at 3:00 P.M. and lasted until about 7:00 P.M. During the negotiation the purchasing manger took very complete notes. When the manager felt the objective of the role-play had been accomplished, he stopped the mock negotiation. The manager collected all the information from the buyer's side of this role-play, and gave it to the buyer who would conduct the actual negotiation. The manager then picked up all the information from the seller's side of the role-play and gave it to the buyer. Finally, the manger gave the buyer all of the notes he had taken. The manager said, "With all of this data you can now plan your real strategy."

Because the buyer, who was on the sales team, gained insights that he did not have before the mock negotiation, he was better able to prepare his strategy for the actual negotiation. The results of the actual negotiation, six weeks later, was a tremendous cost reduction for the buyer's company.

The follow-on to this scenario was that a month after the purchase order was placed and everything taken care of, the buyer came into the purchasing manager's office and said, "I'm going to quit." The manger said, "Why? You are a hero!

Everyone knows that you saved our company lots of money. Why do you want to quit?" The buyer said, "I want to go to work for the company I just negotiated with. If the team that negotiated with me is their best, I'll be their top salesperson in one year, district manager in two years, and vice-president of sales in less than three years. On this issue in the negotiation they made a bad presentation, on this issue their logic was poor, and they forgot this issue." [Ref. 18] What had happened was the buyer knew more about the sales side of the negotiation than the sellers did. Because of the mock negotiation the buyer was better prepared to negotiate the sales position than the seller's people were. The point of this type of role-play is that it prepares the negotiator from the opponent's point of view.

F. PREPARATORY NEGOTIATING TECHNIQUES USED IN INDUSTRY

Discussions with purchasing and marketing representatives from a number of firms who handle both military and commercial sales revealed a wide variety of techniques when preparing for negotiations. These techniques range from meetings to discuss and review a company's proposal to the other extreme of actually conducting a "mock" or simulated negotiation. Table I on page 17 summarizes some of the preparatory techniques used by five different manufacturing firms in preparing for negotiations. While this list is by no means complete, it

does represent some of the more popular preparatory techniques used by the industrial firms contacted by the researcher.

TABLE I

Preparation Technique	COMPANY				
	A	B	C	D	E
1. Meeting between procurement supervisor and negotiator(s) to go over proposal.	X	X	X	X	X
2. Karrass Video Tape Series	X	X	X		
3. Mock Negotiation Case Studies	X	X			
4. Video Recording Mock Negotiation Cases	X	X			
5. Negotiation Seminars	X	X	X	X	
6. Dry Run of Negotiation with manager playing the role of "Devil's Advocate"			X	X	
7. Tiger Team Approach			X		
8. Simulated Negotiations	X	X			

As seen in Table I, at a minimum, all the firms conducted discussions to review a company's proposal. These discussions could be as simple as deciding the **targets** of the firm (minimum, maximum, and objective positions) to mapping out the strategy and tactics that will be used during the negotiation. Frequently, these discussions are the starting point in the preparatory process.

Beyond these discussions, some firms take the process one step further and use a **Tiger Team** approach or go through an actual dry run of the negotiation with the manager playing the

role of "devil's advocate."¹ [Ref. 19] In the Tiger Team approach, a group of negotiators frequently **brainstorm** different strategies and tactics to be used and may also practice questioning techniques in an informal sort of role play.

Building upon this approach, the negotiating team may conduct a **dry run** of the negotiation. In the dry run, the negotiators begin with their opening moves and the strategy and tactics the team intends to employ. The manager or some other team member plays the role of the **devil's advocate**, asking probing questions and trying to find flaws in the negotiators' logic. Role-plays generate considerable enthusiasm and contribute to building a team. Those in the role-play generally exert themselves to prepare the case because they want to appear professional in front of their peers. As a result the team members learn a lot about the process of negotiation. [Ref. 20]

Another extension of this process is the use of a **Murder Board**. A murder board consists of senior purchasing, materials management, finance, manufacturing, quality, engineering, and general management personnel. Like the dry run approach, the negotiating team presents its agenda, objectives, and tactics for the forthcoming negotiations.

¹ Before canonizing a saint, the Roman Catholic Church traditionally appoints a "devil's advocate," who is instructed to advance all the negative arguments, all the reasons why the person should not be canonized. [Ref 19]

Members of the murder board then dissect the negotiating plan in an effort to identify avoidable problems. [Ref. 21]

A final extension of this preparatory process is for the negotiators to conduct a formal mock or **simulated negotiation** similar to the one previously described by Morrison. In this simulation, company negotiators play the different buyer and seller roles against one another and actually go through the negotiation from start to finish. In some cases, the negotiation is video taped and then later reviewed by the group. [Ref. 22]

Video taping was found to be an extremely valuable, low cost preparatory tool for effective negotiation. Use of the video system allows the negotiators to retrospectively evaluate their strengths and weaknesses, to evaluate their negotiation strategy and to see what their "body language" was saying. In some cases a negotiator would be saying one thing, thinking that they were coming from a position of power, when in fact their body language was saying quite the opposite. [Ref. 23] Likewise, in reviewing the videotape, "simulated negotiation participants can see where they missed opportunities." [Ref. 24] Watching a tape of your mock negotiation is a powerful teaching device! [Ref. 25]

The decision to use these preparatory techniques, especially the simulated negotiations, depends, of course, on

the value and relative importance of the contract. One executive stated that simulated negotiations were only used for very large contracts that affected such things as a critical technology or were critical to the success of a product line. [Ref. 26] Obviously there is a much more significant investment in terms of time and money when conducting simulated negotiations as opposed to merely reviewing a company's proposal. Intuitively this makes sense. One executive restated a fundamental truth of business that, **"Time is Money!"** One must weigh the expected benefits to be received from conducting simulated negotiations against the costs associated with the process. [Ref. 27]

G. THE VALUE OF SIMULATED NEGOTIATIONS: AN ANALYSIS

The simulation technique is valuable in the preparation for negotiations because it allows the players to act out the entire negotiation **before** it takes place. The process helps the negotiators see what lies before them in the coming negotiation and presents it much more vividly than if they merely talked about it. This method also gives the negotiators a chance to try something without the risk of failure. Simulated negotiations permit the negotiator to bring into focus any important elements that may have been overlooked or ignored in their original assessment of a proposal. Furthermore, the technique facilitates making corrections in their preparation because it allows the

negotiator to put themselves across the table and see the other person's point of view before the negotiation.

Insight into the benefits of simulated negotiations was identified by a representative of a leading defense supplier who, in answer to the question: "How did you arrive at the decision to use simulation as a preparation for negotiations," stated,

We found ourselves unprepared to negotiate against the Government. Our teams would enter negotiations, thinking themselves well-prepared, but frequently were not. We found that a Government contract role player could invariably introduce new and challenging angles, which improved our performance in the actual negotiations. We estimate that we have achieved a one percent increase in fee over a normal seven to eight percent fee. We are sometimes able to negotiate retention of as much as five to ten percent of our cost position on cost-type contracts which would have previously been negotiated out. The technique is clearly profitable. [Ref. 28]

A rating by training directors of the effectiveness of role-playing (simulation) vis a vis other techniques as a method of training for attaining various training objectives was reported by Carroll, in Personnel Psychology. [Ref. 29] The rating involved 117 training directors from the 200 United States firms employing the largest number of persons. Of particular importance in this study was the finding that role-playing was ranked **second** among nine training methods employed in improving interpersonal skills. Ruling out sensitivity training (which was ranked first among the nine methods) as an appropriate method of preparing for negotiation, role-playing

emerged as a potentially excellent technique for enhancing negotiator preparation. This fact was particularly true in view of the research accomplished by Rubin and Brown and their emphasis on the importance of the interpersonal-orientation variable in negotiations. [Ref. 30]

H. THE BROSIUS AND ERICKSON EXPERIMENT

With interest in exploring the effect of the role-playing technique in preparing for negotiations, Brosius and Erickson conducted an experiment in 1974 to measure the effect of simulated negotiations on final negotiated results. [Ref. 31] This experiment is believed to be the first attempt to isolate and measure the effect of preparatory simulated negotiations on actual negotiated outcome. In this experiment the negotiated outcome was defined as the price the buyer would pay. [Ref. 32] Brosius and Erickson employed, as participants in the experiment, Department of Defense procurement careerists. A contract-negotiation case used for training in Department of Defense procurement management courses was used as a vehicle for the experiment.

Essentially, Brosius and Erickson divided the participants into two groups, experimental and control. Control-group participants playing the role of the buyer (B_1) negotiated with participants playing the role of the seller (S_1) in the "actual" negotiation. Control-group buyers negotiated only once in the "actual" negotiation. The outcome of the

negotiation was the final negotiated price of the contract. Next, experimental-group participants playing the role of the buyer (B_2) engaged in simulated negotiations with participants playing the role of the buyer's supervisor (B_3) before "actual" negotiations with the seller (S_2). Analogous to the control group, participants playing the role of the seller negotiated only once in the "actual" negotiation.

One cycle of the experiment thus required five individuals. A summary of the assigned roles is provided as follows:

<u>Group</u>	<u>Simulated Negotiation</u>	<u>Actual Negotiation</u>
Control	None	B_1 against S_1
Experimental	B_2 against B_3	B_2 against S_2

Brosius and Erickson then statistically compared the price that the experimental-group buyers negotiated in the "actual" negotiation with the price that the control group negotiated. Surprisingly, the result of the comparison was a finding that the experimental group buyers, who had engaged in preparatory simulated negotiation, negotiated a significantly higher (less desirable) price than the control-group buyers, who had not engaged in simulated negotiation. [Ref. 33]

With respect to the effect of simulated negotiation on "actual" negotiation effectiveness, one might have found the results of this experiment intuitively disturbing. It was anticipated in the experiment that the use of simulated

negotiations by the buyer and not by the seller would correlate with a decrease in the price "actually" negotiated. In this experiment, the exact opposite was true.

Brosius and Erickson considered the following possible explanations as to why the results indicated that simulated negotiations correlated with an increase in price instead of a decrease: [Ref. 34]

1. The motivations of non-volunteer participants could have been quite different from those of contract negotiators engaged in actual negotiations.
2. The instrumental test negotiation case could have possessed an unforeseen amount of bias in terms of negotiating "power" in favor of the control group buyers and/or the experimental group sellers.
3. Test procedures and time constraints could have affected negotiation effectiveness in favor of the control group buyers.
4. Simulated negotiation may have resulted in an intuitively more palatable effect on negotiation effectiveness if supervisors, instead of colleagues, had played the role of "Devil's Advocate."

Finally, they stated, "Many other potential 'boundary variables' could be listed; however, their influence on the outcomes of the experiment are unknown." [Ref. 35]

I. SUMMARY

This chapter provided the theoretical foundation for the value of simulations as an effective preparatory technique for

negotiations. Simulated negotiations have been a tool used in various settings; preparing for labor contract negotiations, preparing for court room trials and preparing for industry contract negotiations. A number of firms who deal in both military and commercial sales revealed a wide variety of techniques when preparing for negotiations. Of these techniques, the mock or "simulated negotiation" was discussed extensively and the rationale and value of using this technique was discussed.

The chapter concluded with an account of the Brosius and Erickson experiment. This experiment is believed to be the first attempt to isolate and measure the effect of preparatory simulated negotiations on actual negotiated outcome. It was anticipated in the experiment that the use of simulated negotiations by the buyer and not by the seller would correlate with a decrease in the price actually negotiated. In this experiment, however, the exact opposite was true.

The next chapter will discuss, in detail, the design of the research experiment to measure the simulated negotiation effect and how the revised experiment attempts to overcome the problems encounter by Brosius and Erickson.

III. DESIGN OF THE RESEARCH

A. INTRODUCTION

The Brosius and Erickson experiment described in the last chapter produced counterintuitive results; specifically, individuals who participated in a simulated negotiation prior to their actual negotiation did worse than those individuals who did not use simulated negotiations as a preparatory technique. This chapter details the research and development of the experimental design used in this research. In addition, the chapter explains how the research design attempts to overcome some of the problems encountered in the earlier research experiments.

B. THE BASIC DESIGN OF THE RESEARCH

1. The Burt Experiment

The design of the instant research evolved from a field experiment conducted at the Naval Postgraduate School. This field study was based on the test structure employed by Dr. David Burt to measure the effect of simulated negotiation as a preparation technique on negotiation effectiveness. [Ref. 36] Like the Brosius and Erickson experiment, the model of his test structure was as follows:

<u>Group</u>	<u>Simulated Negotiation</u>	<u>Actual Negotiation</u>
Control	None	B_1 against S_1
Experimental	B_2 against B_3	B_2 against S_2

Basically, his model provided for comparing the price negotiated by Buyer #2 (B_2), who had previously employed simulated negotiation with Buyer #3 (B_3) as a preparation technique, with that negotiated by Buyer #1 (B_1), who had not employed simulated negotiation as a preparation technique. The instrument used to generate both the simulated negotiations and the actual negotiations was a structured, role-playing contract negotiation case in use as a training aid in contract administration courses conducted by the Continuing Education Division, School of Systems and Logistics, Air Force Institute of Technology, Wright-Patterson AFB, Ohio. [Ref. 37] Thus, if the mean price negotiated by the participants playing the role of B_2 was statistically significant from the mean price negotiated by participants playing the role of B_1 , it could be concluded that simulated negotiation affected negotiation effectiveness, i.e., price negotiated, when employed by the buyer and not by the seller as a preparation technique for negotiation.

The results of the Burt experiment were as follows:
[Ref. 38]

B_2 's employment of simulated negotiation as a preparation technique was associated with a final price that was \$3,368

greater (worse from the buyer's point of view) when simulation had been used as a preparation for negotiations.² With respect to the effect of simulated negotiation on actual negotiation effectiveness, one might have found the results of the Burt experiment intuitively disturbing. Like Brosius and Erickson, it was anticipated by Burt that the use of simulated negotiations by the buyer and not by the seller would correlate with a decrease in the price actually negotiated, instead of an increase. Accordingly, upon examining the results of the experiment, Burt offered the following possible explanations as to why the results indicated that simulated negotiations correlated with an increase in price instead of a decrease: [Ref. 39]

1. The research employed experienced purchasing personnel, many of whom had considerable experience in negotiation. It is possible that some level of boredom or resentment may have crept into the experiment when subject B₂ conducted the actual negotiation.
2. It is likely that participants' work was "backing up" while the experiment was being conducted. The resulting state of mind may have caused the B₂ subjects to give their second "play" less than their best effort.

². $R^2=.4291$. The "t" value for the independent dummy variable which indicated the presence or absence of a simulation prior to actual negotiation was 2.1957 which is significant at the .025 level.

In addition to the unknown effects of the variables considered by Burt, the design of the test structure was examined. This examination led to the question as to whether the structure of the test as designed adequately provided for isolating the basic differences between the experimental group participants and the control group participants. It appeared that it did not.

Isolation of these differences was a necessary prerequisite for isolating the effect of simulated negotiations on actual negotiations. If these basic differences were not isolated and defined, then their effect on negotiation effectiveness must necessarily have been commingled with the effect of simulated negotiations. Thus, it appeared that ascertaining the effect of simulated negotiation effectiveness was not possible. Rather, the design of the experiment provided, generally, only for identifying the combined effect of both the basic difference in negotiator abilities and simulated negotiations on negotiation effectiveness.

2. The NPS Field Experiment

Dr. David Lamm of the Naval Postgraduate School and the researcher conducted a similar experiment based on another role-playing case developed by Dr. David Burt. Individuals who served as subjects in the experiment were third quarter contracting students in Dr. Lamm's Pricing and Negotiation class. Like the Burt experiment, five individuals were

required for each cycle of the experiment and only B_2 negotiated twice. Again, in this experiment, the negotiated outcome was defined as the price the buyer would pay.

What made this experiment different was the use of questionnaires and personal interviews with the experimental buyers to measure their perceptions of how simulated negotiations effected their performance in the actual negotiation. The rationale for the questionnaires was to obtain a qualitative measure of the simulated negotiation effect. One questionnaire was administered to the buyers after the simulation round. Following the actual negotiation a second questionnaire was completed and each buyer met with the researcher for an individual interview and a group debrief. An example of each questionnaire and the researcher debrief worksheet is included in Appendix C.

Eighteen rounds of negotiations were conducted. One of the experimental rounds resulted in a deadlock, wherein the individuals were unable to reach an agreement, and was discarded. A summary of the results are listed in Table II on page 31.

This experiment produced rather mixed results. The mean difference in the negotiated price between the control groups and the simulation groups was less than 1 percent. This difference appears appropriate as each group was independent and functioned under the same conditions.

TABLE II

PRICES NEGOTIATED IN NPS FIELD EXPERIMENT

	<u>Control</u>	<u>Simulation</u>	<u>Experimental</u>
#1	2,320,000	2,187,000	2,300,000
#2	2,476,531	2,249,000	IMPASSE
#3	2,322,000	2,660,000	2,139,528
#4	2,125,000	2,256,000	2,300,000
#5	2,250,000	2,585,000	2,225,000
#6	2,698,515	2,135,000	2,145,000
Mean =	2,365,341	2,345,333	2,221,906

By contrast, the results from the experimental group indicated that the final mean price was \$123,428 less (better from the buyer's point of view) when simulation had been used as a preparation for negotiations. The mean negotiated price for the experimental groups was \$2,221,906 and thus was associated with a 5.2% **decrease** in price. Of the six groups of negotiations, only one experimental group (group #4) negotiated a higher price than their control group counterparts. This result suggests that performing simulated negotiations prior to actual negotiations improves the negotiated outcome (in this case the bottom line price).

An additional observation is that although the overall mean price negotiated by the experimental group decreased from the mean price negotiated in the simulation, the fact remains that of the six groups, three of them negotiated a **higher** price in the actual negotiation. That is, when comparing the simulation round and the actual negotiation, simulated

negotiations as a preparation for actual negotiations proved to be dysfunctional for these three groups. It is noted however, that comparing the simulation round and the actual negotiation does not allow for a truly meaningful comparison as the boss in the simulation and the seller in the actual negotiation did not have the same case information. Therefore, trying to make a comparison between the two is like trying to compare apples and oranges.

Additionally, the results from experimental group #3 are suspect. The seller in this case came in with a very low counteroffer which the buyer accepted. The total negotiation time was probably less than 15 minutes whereas most of the other groups needed between 45 and 60 minutes to reach an agreement. The lower negotiated price in that round may have been due, in part, to a miscalculation on the part of the seller as opposed to better preparation by the buyer attributed to the prior simulation.

Examining only the price as the negotiated outcome then, and comparing it to the control group, suggests that simulated negotiations do indeed improve the negotiated price in the actual negotiation. Likewise, the results from the questionnaires and the interviews conducted by the researcher produced some strikingly positive trends.

Following the simulation, all of the experimental buyers **agreed or strongly agreed** that the simulated negotiation:

- Helped them evaluate the strengths and weaknesses of their strategy.
- Enabled them to evaluate the effectiveness of their tactics.
- Helped them solidify their arguments.
- Helped them identify issues that they had not previously identified.
- Helped them formulate an improved line of inquiry.

In summary, all of the participants felt that the simulated negotiation was an extremely valuable preparatory technique.

The post negotiation questionnaire and interviews produced similar results. Following the actual negotiations, the experimental buyers reported that (1) they felt more comfortable with their strategy and tactics during the actual negotiation because they had already done the simulation, and (2) they would like to conduct more simulations in preparation for future contract negotiations. Similarly, almost all of the experimental buyers noted that in comparison to the simulated negotiation that they had increased feelings of confidence, focus, preparation, motivation, creativity, and a unanimous feeling of having more knowledge in the actual negotiation. Some of the buyers also noted that they felt less anxious and resentful by comparison.

In general, the group's comments on the value of the simulated negotiation process as a preparatory technique were very positive. The following comments were typical of the

responses the researcher received during the interviews and the group debrief on the value of the simulated negotiation.

- "It gets you thinking about the negotiation and helps you fine tune your points."
- "It gave me the chance to do a dress rehearsal of the negotiation."
- "It enabled be to try out my strategy and tactics."
- "It helped me develop my agenda and solidify my position."
- "It enabled me to pay attention to my body language."

Despite these positive responses, the group noted that it was difficult to really compare the simulated negotiation to the actual negotiation because the information that the boss and the seller had was different. There was a general feeling on the part of the B₂s that the individuals playing the role of the boss were not able to negotiate as effectively as the sellers because the sellers had better information to work from and therefore were more convincing in their arguments. The information that the boss had to work with in the case was essentially the same as that of the buyer (this would reflect conditions in the real world) and therefore the boss was unable to provide the same strong arguments as the seller. Thus the participants playing the role of the boss may have been more willing to come down in price than the seller who had more information to justify their position. Likewise, the group noted that the motivation and attitudes for the boss and the seller seemed to be different, i.e., there was a feeling

the part of some of the B_2 s that the sellers were not negotiating in good faith.

Some additional observations by the researcher include:

1. The NPS experiment lacked some realism because the students knew each other and their personalities. The B_2 s, for example, noted that it was difficult for them to think of their peers as the boss in the simulation.
2. In two of the experimental groups, the seller's position may have been artificially high because the student's playing the role of the seller erroneously believed that their grade for the negotiation was based on their ability to obtain their max objective. Therefore, they were unnecessarily obstinate and unwilling to come down in price.
3. The individual playing the role of the boss did not have the same information as the seller and therefore may have been in a weaker position to develop a strong case. Thus, the boss may be more willing to come down in price than the seller who has more and better cost information to justify their position.

In conclusion then, the results of the NPS experiment suggest that simulated negotiations do improve the negotiated outcome when compared to groups not having performed a simulation. The results of the small sample size, however, does not allow for any statistically significant conclusions. Additionally, like the Burt experiment, the differences between the negotiating abilities of the control and experimental groups and the simulated negotiation variable, became commingled, thus rendering isolation and measurement of the effect of simulated negotiations practically impossible.

The design of the experiment provided, generally, only for identifying the combined effect of both the basic differences in negotiator abilities and simulated negotiations on negotiation effectiveness.

However, the use of the questionnaires as a qualitative measure of the simulated negotiation effect showed definite promise. The results of the questionnaires and the interview with the experimental buyers in the NPS field experiment were overwhelmingly positive concerning the value of simulation negotiations. In many cases the buyer may in fact have felt better prepared and may even have felt they negotiated a better deal in light of the actual seller's new information, irrespective of the higher price that they negotiated. This researcher believes that the questionnaires and the individual interviews with each of the experimental buyers captured this fact in the NPS field study.

3. Experiment Design

In light of the results from the Burt and NPS experiments, the experimental design was modified in an effort to mitigate the effects of the uncontrolled independent variables. The model of the experimental design that evolved from the modification was as follows:

<u>Group</u>	<u>Simulated Negotiation</u>	<u>Actual Negotiation</u>
Control	None	B ₁ against S ₁
Experimental	B ₂ against B ₃	B ₂ against S ₂

While this model appears to be the same as the previously described experimental models, it differs in one important way. In this experimental model, the control and experimental groups are not directly linked together for the purposes of comparison. Rather, a number of independent control groups were run in order to establish a relevant "price range" from each of the individual negotiations. In the previous models there was nothing that directly connected the experimental and control groups in each round. Each functioned independently of the other. For example, in the previous models, a B_1 with strong negotiation skills could negotiate against a S_1 with very weak negotiation skills and the result of this round could be compared with the price negotiated by a B_2 and S_2 with reversed negotiating skills, i.e., B_2 weak and S_2 strong. Obviously, this is an extreme example, but the differences in the negotiating skills of the participants emphasizes the need to compare against a baseline rather than individual price points in a particular round.

Therefore, by establishing a baseline "price" by averaging the negotiated prices from the control groups allowed for a more meaningful comparison between the control and experimental groups because it eliminated the individual differences between the buyers and the sellers in each round. By eliminating the individual differences in negotiating abilities of the control and experimental groups, the design

of the experiment was thought to give a better measure of the effect of simulated negotiations on negotiation effectiveness.

Additionally, like the NPS experiment, the use of the questionnaires as a qualitative measure of the simulated negotiation effect was incorporated into the experiment design. This qualitative measure was important to capture the essence of the simulated negotiation effect. As previously noted, the buyer may have felt better prepared as a result of the simulation and may even have felt they negotiated better in the actual negotiation even if the resulting price was higher.

C. THE SEQUENCE OF THE EXPERIMENT

The experiment was conducted in the following sequence of events with the roles defined below:

1. Hour #1. During hour #1 of the experiment:
 - (a) The experimental buyer B_2 and the boss B_3 negotiated and reported the results to the researcher.
2. Hour #2. During hour #2 of the experiment:
(if applicable)
 - (a) The control buyer B_1 and the control seller S_1 negotiated and reported the results to the researcher.
 - (b) After the boss finished giving the buyer feedback, the experimental buyer met with the researcher and completed the post-simulation questionnaire. Upon completion of the questionnaire, the experimental buyer had approximately forty-five minutes before conducting the actual negotiation.

3. Hour #3. During hour #3 of the experiment:

(a) The experimental buyer B_2 and the experimental seller S_2 negotiated and reported the results to the researcher. If this round resulted in an impasse, then S_2 completed a questionnaire during Hour #4.

4. Hour #4. During hour #4 of the experiment:

(a) After B_2 and S_2 negotiated, the experimental buyer met with the researcher to complete the post negotiation questionnaire and participated in an interview with the researcher.

In connection with the description of the sequence of events as described above, it should be noted that the roles for each of the participants were distributed to the participants, as appropriate, at least 24 hours prior to the beginning of the experiment. Thus, each participant was given at least 24 hours prior to the negotiations to study this role and prepare a negotiating position. Additionally, it was important to ensure that the individuals playing the role of the sellers NOT know whether they were negotiating with a control or an experimental buyer as this may have affected their motivation in the negotiation.

Finally, it is again emphasized that the objective in not directly connecting the experimental and control groups and having a baseline "price range" as a point of comparison was to minimize the differences in negotiating abilities between the groups of buyers and sellers thus promoting a more accurate measurement of the simulation effect.

D. THE ROLE-PLAYING CONTRACT NEGOTIATION CASE

The case employed in this experiment, "A PROBLEM OF PRICE," was a role-playing scenario specifically designed by Dr. David N. Burt, to measure the effect of simulated negotiations. This case was ideally suited for this experiment in that it contained a role for the buyer, a role for the buyer's boss, and a role for the seller. The design of the case engaged the buyer first in a simulated negotiation with the boss playing the role of the seller. The boss, however, had essentially the same information as contained in the buyer's case. Second, the case engaged the buyer in an "actual" negotiation with the real seller. Thus, this case lent itself to the design of the experiment to determine the effect of simulated negotiation on actual negotiation effectiveness. A complete copy of the "A PROBLEM OF PRICE" Case is presented in Appendix A with the permission of Dr. Burt.

E. THE SELECTION OF PARTICIPANTS

The selection of participants to play the roles necessary for the experiment was accomplished by soliciting the participation of three different demographic groups: (1) contracting students, (2) Government contracting personnel, and (3) industry contracting personnel who deal primarily with the Government. The student groups were comprised of students at the Naval Postgraduate School and students in negotiation

classes at the University of San Diego and the University of Southern California. A total of 133 students participated in the experiment. While some of these students had limited contract negotiation experience, the vast majority of them had no formal negotiation experience other than in-class negotiation exercises. Still, the case as previously described, was relatively uncomplicated and could be handled by the novice negotiators.

The military and commercial organizations utilized in this research are all located on the West Coast in California, and are sufficiently large and sufficiently experienced in negotiating Department of Defense contracts to employ contract negotiators, contracting officers, contract administrators, and/or cost-price analysts experienced in negotiating contracts. Four military activities and four commercial corporations, identified in Appendix B, responded affirmatively.

These activities and corporations, in turn, solicited the participation of their employees to engage in the simulated negotiation experiment. A total of 93 employees agreed to participate in the experiment. Among these employees, ages, educational attainments, organizational positions, and professional background and experience levels varied. However, all were sufficiently knowledgeable of Department of Defense contract negotiations and all were sufficiently experienced to have participated previously in contract

negotiations. Thus, selection of participants was accomplished on a pragmatic, opportunistic, rather than technically preferable strictly random basis. Accordingly, the resultant sample of elementary units, or participants, was of the category which may be classified as convenient [Ref. 40] -- convenient in that the sample was restricted to contract negotiators located on the West Coast, and agreeable and available to participate.

The results of the experiment, therefore, were subject both to possible sampling error, i.e., "the differences between the sample and the population that are due solely to the particular elementary units that happen to have been selected," and sampling bias, i.e., the "tendency (however unconscious) to favor the selection of elementary units having particular characteristics." [Ref. 41]

On the other hand, there was no awareness of any reason to believe that the participants in the experiment were not representative of the population of contracting students and contract negotiators in the area of Department of Defense contract negotiations. Therefore, the selection of participants was assumed to be random.

F. INSTRUCTIONS TO THE PARTICIPANTS

Prior to the experiment, each participant was given the following instructions in addition to the information contained in the role-playing case:

1. You should attempt to play the buyer, seller or boss role assigned--unencumbered, insofar as possible, by your actual employment as a student, contract administrator, price analyst, etc.
2. Your sole objective is to acquire the product at the best possible price you can negotiate. All other terms of the contract such as delivery schedule, transportation, etc. are non-negotiable.
3. You are only concerned with the final negotiated price for the first year of the five year contract. You need not be concerned with a specific escalation factor for the subsequent years.
4. You have complete authority to negotiate an agreement at whatever price you determine to be acceptable.
5. You have one hour to reach an agreement.
6. At the conclusion of the negotiation, you are to record the final negotiated price on the form provided by the researcher.
7. Following the simulated negotiation, individuals playing the role of the boss should give the buyer feedback on the effectiveness of their strategies and tactics, and what they can do to improve their performance in the actual negotiation.
8. You are not to discuss any element of the case or of your performance with anyone else participating in the role play until the entire experiment is completed. Each individual is to work independently.

In addition to these instructions and the information contained in the role-playing case, the participants were provided answers to general questions that they asked. After receiving answers to their questions, they commenced the negotiations, following the sequences described in Section C.

G. SUMMARY

This chapter described, in detail, how the final experimental design was developed. While the design of the experiment was very similar to earlier experimental designs, it was noted that it differed in one important aspect. Rather than tie the experimental and control groups directly together, a number of independent control groups were run in order to establish a baseline price for the purpose of comparison with each experimental group.

It was felt that by establishing this baseline price that a more meaningful comparison between the control and experimental groups could be made because it eliminated, to a great extent, the individual differences between the buyers and the sellers in each round of negotiation. Therefore, by eliminating these individual differences in negotiating abilities, the design of the experiment was thought to give a better measure of the simulated negotiation effect. Additionally, it was noted that questionnaires were used to give a qualitative measure of the participants' feelings regarding the value of simulated negotiations as a preparatory technique.

The chapter also described the case that was used and how the experiment was conducted. The selection of participants was detailed as well as the instructions each participant received prior to their negotiations.

The next chapter presents the data that were collected from the experiment.

IV. ANALYSIS OF DATA BASED ON NEGOTIATED PRICE

A. INTRODUCTION

This chapter presents and analyzes the data obtained on the final negotiated price from the control, simulation and actual negotiation rounds. The data are presented and analyzed in the aggregate and are also broken down by the participating groups.

B. DATA COLLECTION AND PRESENTATION

A total of 226 individuals representing three schools, four Government activities and four commercial corporations participated in the experiment. Of these 226 participants, 133 were students, 52 were Government employees, and the remaining 41 were industrial employees. In total, 139 rounds of negotiations were conducted. Of these negotiations, nineteen resulted in an impasse, (six in the simulation round, nine in the actual round and four in the control group), wherein the individuals were unable to reach an agreement. The impasse rounds were discarded from the calculations. The price outcome of the remaining 120 rounds of negotiations consisted of the dollar amounts negotiated and agreed upon by each buyer-seller pair, including the simulated negotiation between the buyer and the boss. All of the data collected are summarized and presented in Table III. Each cell in Table III

includes the mean price negotiated, the standard deviation, and the number of elements in each population. For the purposes of comparison, the data are presented in both the aggregate and by each individual group.

TABLE III
SUMMARY DATA FOR THE PRICES NEGOTIATED

GROUP	CONTROL Mean (Std Dev'n) n = pop size	SIMULATION PRICE Mean (Std Dev'n) n = pop size	ACTUAL PRICE Mean (Std Dev'n) n = pop size
TOTAL	2,296,941.80 (119,091.57) n = 31	2,313,319.30 (165,872.41) n = 46	2,239,458.70 (150,675.50) n = 43
STUDENT	2,306,791.10 (132,750.68) n = 23	2,278,500.00 (147,810.10) n = 23	2,195,800.00 (99,463.73) n = 21
GOVERNMENT	2,226,750.00 (45,350.72) n = 4	2,413,168.30 (177,707.87) n = 13	2,313,731.00 (201,233.50) n = 12
INDUSTRY	2,310,500.00 (29,338.54) n = 4	2,263,600.00 (130,527.54) n = 10	2,242,015.00 (132,759.65) n = 10

C. DATA ANALYSIS

Upon completion of the experiment, the data collected and presented in Table III were analyzed as a first step toward obtaining an answer to the research question as to what, if any, effect engaging in preparatory simulated negotiations has on actual negotiation effectiveness.

The results from the overall experiment indicated that the final price was \$57,483.10 less (better from the buyer's point of view) when simulation had been used as a preparatory technique for negotiations. The mean price negotiated was \$2,239,458.70. The simulated negotiation thus was associated with a **2.5% decrease** in price. That is, simulated negotiations as a preparation for actual negotiations proved to be beneficial in this experiment and improved the negotiated outcome.

However, when looking at each group individually, all of the results were not the same. While the student and industry participants (as a group) who engaged in simulated negotiations obtained a lower price than their control group counterparts, the Government participants obtained a higher price. That is, simulated negotiations as a preparatory technique for actual negotiations proved to be dysfunctional for the Government participants as a group. These results are summarized in Table IV on the next page.

TABLE IV

COMPARISON OF ACTUAL PRICES NEGOTIATED

GROUP	TO SIMULATION	TO CONTROL
TOTAL	\$73,860.60 less 3.2% decrease	\$57,483.10 less 2.5% decrease
STUDENT	\$82,700.00 less 3.6% decrease	\$110,991.10 less 4.8% decrease
GOVERNMENT	\$99,437.30 less 4.1% decrease	\$86,981.00 more 3.9% increase
INDUSTRY	\$21,585.00 less 1.0% decrease	\$68,485.00 less 3.0% decrease

As seen in Table IV, the student group had the biggest decrease in price (4.8%) when compared to their control group counterparts. Likewise, the industry participants achieved a 3.0% reduction in price. For these two groups, the simulation proved to be a beneficial preparatory technique. In contrast, the Government participants who had engaged in simulations prior to their actual negotiation had a 3.9% increase in price when compared to their control group. This result suggests that the benefits of simulation as a preparatory technique may not be universal.

One possible explanation for the dissimilar results between the groups may have been due to the difference in attitude of the participants. In general, the researcher noted a more general willingness, even anxiousness, on the part of the students and industrial participants to see how

well they could perform having done the simulation. The researcher noted that there also appeared to be a degree of competition among the students and some of the industrial participants. These groups appeared to have a higher interest level in finding out how they "stacked up" in comparison to the other participants. In addition, there appeared to be an element of wanting to appear fully competent and professional in front of a peer, an instructor, or a supervisor.

For example, all of the students participated in the experiment as part of their negotiation class. It was felt, then, that the students wanted to give their best effort as this would be reflected in their grade for the course. Likewise, many of the industry participants felt that they were having their performance monitored by their "real boss." For them, it was not only a matter of "saving face" with a co-worker, but also of "looking good in front of the boss."

This is not to say that these same elements were not present in any of the Government participants. On the contrary, some of the Government participants appeared to be very aggressive and competitive during the experiment. However, as a group, these tendencies may have been mitigated by concern over their ever growing work load or a feeling that "the results were of little or no consequence" to them. Therefore, some of the Government participants may have given their second play in the actual negotiation less than their best effort.

Furthermore, as a group, the Government participants reduced the price from the simulation round to the actual negotiation by 4.1% - the largest reduction of any of the groups. Therefore, there may have been a feeling on the part of these buyers that the price was lower than what they received in the simulation round and therefore was "good enough." One of the Government participants said, "I knew this price would be acceptable, because my boss and I negotiated a higher price during the simulation. I figured that if I came home with anything less than that (the simulation price) would be good."

Again, it should be noted that these observations are only a possible explanation for the disparity between the groups. Additionally, the observations are based solely on impressions and conjecture rather than theoretical evidence derived from the experiment.

D. SUMMARY

This chapter presented the negotiated price results from the various rounds of negotiations. An analysis of the results was made comparing the actual negotiation price to both the simulation price and the control group price. This analysis was done for the aggregate of all the groups as well as each individual group. In the aggregate, the results suggest that simulated negotiations do indeed improve the negotiated price in the actual negotiation. Therefore,

simulated negotiation appears to be a beneficial preparatory technique for actual negotiations.

It was noted, however, that not all of the groups improved their result in the actual negotiation after performing simulated negotiations. While both the student and industry participants improved their negotiated outcome, the Government participants did not. In the case of the Government participants, performing simulated negotiations proved to be dysfunctional in this experiment. A possible explanation for the difference in the results between the groups was provided.

The next chapter will examine the results from the questionnaires in order to obtain a qualitative measure on the effectiveness of simulated negotiations as a preparatory technique.

V. ANALYSIS OF DATA BASED ON THE QUESTIONNAIRES

A. INTRODUCTION

This chapter presents and analyzes the results from the questionnaires that were used during the experiment. The questionnaires, which included 5 point Likert scale questions and open/close ended questions were designed to obtain a qualitative measure of the effectiveness of simulated negotiations. An example of the questionnaires is contained in Appendix C.

It is noted, however, that only the results obtained from the Post Negotiation Questionnaire will be presented for analysis. After reviewing the results of both the Post Simulation Questionnaire and the Post Negotiation Questionnaire, it was felt that the value of the responses on the Post Simulation Questionnaire were of little or of no value. The nine Likert Scale questions on the Post Simulation Questionnaire were repeated on the Post Negotiation Questionnaire, and it was felt that the participants were able to give a better evaluation of the simulated negotiation process only after having gone through both the simulation and the actual negotiation. It was felt that asking those questions on the Post Simulation Questionnaire would be like asking someone to evaluate the merit of a practice test before

they took the real test. An individual would only be able to measure the true merit of the practice test until they had taken the real test and evaluated how well they performed based on the knowledge and experience they gained from the practice test.

The point is that the responses on the Post Simulation Questionnaire were only able to give a "belief" of how the simulated negotiation might help them in the actual negotiation, while the responses on the Post Negotiation Questionnaire were able to measure how the respondents felt that the simulation had actually helped them. Therefore, only the results from the Post Negotiation Questionnaire are presented and analyzed.

Each question from the Post Simulation Questionnaire is presented individually, and a tabulation of the responses is presented in a table. Each cell in the table gives the percentage of participants selecting a particular response, i.e. strongly agree, agree, etc., and further breaks down the responses by group for the purposes of comparison. The table also provides the average numeric response for each group.

B. DATA PRESENTATION AND ANALYSIS

1. Likert Scale Statement Results

Upon completion of the actual negotiation, the experimental buyers (B_2 s) were asked to respond to the

following fourteen Likert Scale statements on the Post Negotiation Questionnaire.

1. The simulated negotiation helped me to evaluate the strengths and weaknesses of my negotiation strategy.

Strongly Agree No Opinion Strongly Disagree
 5 4 3 2 1

This statement was designed to measure the respondent's belief that the simulated negotiation had somehow helped them to evaluate the strengths and weaknesses of their negotiation strategy. The results are presented in Table V below.

TABLE V
HELPED EVALUATE NEGOTIATION STRATEGY

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
STRONGLY AGREE	56%	60%	14%	64%
AGREE	29%	26%	29%	36%
NEUTRAL	10%	14%	7%	0
DISAGREE	1%	0	7%	0
STRONGLY DISAGREE	4%	0	14%	0
AVERAGE RESPONSE	4.30	4.44	3.79	4.63

Based on the NPS field experiment, the researcher expected that the majority of the respondents would at least agree with this statement. This expectation was confirmed as the responses to this statement indicated that across the board the participants strongly felt that the simulation had

indeed helped them evaluate the strengths and weaknesses of their strategy. The industry group had the strongest response with 100% of the respondents either strongly agreeing or agreeing with the statement, followed by the students with 86% and the Government group with slightly less at 82%. Only in the Government group were there any respondents who disagreed or strongly disagreed with this statement indicating that in some cases the simulation was of little value to them in helping evaluate their strategy. It is clear from the responses, however, that the vast majority of the respondents felt that the simulation was helpful in evaluating the strengths and weaknesses of their strategy.

2. The simulated negotiation enabled me to evaluate the effectiveness of specific tactics.

Strongly Agree		No Opinion		Strongly Disagree
5	4	3	2	1

Like the previous statement, this statement was designed to measure the respondent's belief that the simulated negotiation had somehow helped them to evaluate the effectiveness of the specific tactics they intended to use in the actual negotiation. The results are presented in Table VI below.

Like the previous statement, the researcher expected that the majority of the respondents would at least agree with this statement. One would have expected a high degree of correlation between these two statements anyway, as strategy

TABLE VI
HELPED EVALUATE NEGOTIATION TACTICS

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
STRONGLY AGREE	40%	48%	36%	27%
AGREE	50%	48%	43%	64%
NEUTRAL	8%	4%	14%	9%
DISAGREE	2%	0	7%	0
STRONGLY DISAGREE	0	0	0	0
AVERAGE RESPONSE	4.29	4.44	4.07	4.18

and tactics are usually intertwined. Again, this expectation was confirmed as the responses to this statement were almost identical to statement number one. That is, the participants strongly felt that the simulation had indeed helped them evaluate the effectiveness of the specific tactics they intended to use during the actual negotiation. In this case, the students had the strongest response with 96% of the respondents either strongly agreeing or agreeing with the statement, followed by the industry group with 91% and the Government group with only 79%. Again in the Government group there is less of an enthusiastic response. Overall, however, 90% of the respondents felt that the simulation was helpful in evaluating the effectiveness of specific tactics.

3. The simulated negotiation helped me focus on what were the real issues.

Strongly Agree		No Opinion		Strongly Disagree
5	4	3	2	1

This statement was designed to measure the respondent's feeling that the simulated negotiation had helped them sort through the various issues that existed in the case. The researcher postulated that each individual entered the negotiation with a specific agenda as to what they felt were the relevant issues. Furthermore, the researcher felt that the simulation would help the negotiator sort out these issues and give them relative weight and importance. The results are presented in Table VII.

TABLE VII

HELPED FOCUS ON REAL ISSUES

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
STRONGLY AGREE	48%	48%	43%	55%
AGREE	35%	33%	36%	36%
NEUTRAL	12%	15%	7%	9%
DISAGREE	5%	4%	14%	0
STRONGLY DISAGREE	0	0	0	0
AVERAGE RESPONSE	4.25	4.26	4.07	4.45

Based on the NPS field experiment and the relevant literature dealing with simulated negotiations, the researcher expected that the majority of the respondents would at least

agree with this statement. This expectation was confirmed as the responses to this statement indicated that across each of the groups, the participants strongly felt that the simulation had helped them focus on the real issues.

On this statement, both the student and industry groups had 91% of the respondents either strongly agreeing or agreeing with the statement, again followed by the Government group with only 79%. Overall, 5% of the respondents disagreed with this statement, indicating that in some cases, the simulation either did not help the respondent focus on the real issues or may, in fact, have sidetracked them. However, a solid majority of the respondents (83%), felt that the simulation was helpful in identifying and focusing for them the important issues that needed to be addressed in the negotiation.

4. The simulated negotiation helped me solidify my arguments.

Strongly Agree		No Opinion		Strongly Disagree
5	4	3	2	1

This statement was designed to measure the respondent's belief that the simulated negotiation had helped them to ensure that their arguments were sound and well defined. The results are presented in Table VIII.

Again, the researcher expected that the majority of the respondents would agree with this statement. The researcher postulated that the simulation would enable the negotiator to

TABLE VIII
HELPED SOLIDIFY ARGUMENTS

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
STRONGLY AGREE	46%	48%	36%	55%
AGREE	48%	48%	57%	36%
NEUTRAL	4%	0	7%	9%
DISAGREE	2%	4%	0	0
STRONGLY DISAGREE	0	0	0	0
AVERAGE RESPONSE	4.39	4.40	4.29	4.45

rehearse their arguments during the simulation and to refine and bolster them as necessary. This expectation was confirmed as the vast majority of the participants strongly felt that the simulation had indeed helped them solidify their arguments. All three of the groups responded very positively to this statement. While one student disagreed with this statement, the rest of the students either strongly agreed or agreed with the statement. Therefore, the one negative response was felt to be an outlier. The industry group had the strongest overall response with 55% of the respondents strongly agreeing with the statement. Again, there was a very close average response rate between the industry and student groups, 4.45 and 4.4 respectively. They were closely followed with a 4.29 average response rate from the Government participants. Overall, these responses overwhelmingly

indicate that the simulated negotiation process helps individuals solidify and refine their arguments.

5. The simulated negotiation helped me identify issues that I had not previously identified.

Strongly Agree		No Opinion		Strongly Disagree
5	4	3	2	1

This statement is very similar to statement number three. It was designed to measure the respondent's feeling that the simulated negotiation had helped them identify issues or points that they had not previously identified or considered. The researcher postulated that not only would the simulation help evaluate the issues, but also help bring to light points that the negotiator had not previously considered. The results are presented in Table IX.

TABLE IX
HELPED IDENTIFY NEW ISSUES

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
STRONGLY AGREE	44%	48%	36%	46%
AGREE	36%	33%	43%	36%
NEUTRAL	7%	8%	7%	9%
DISAGREE	10%	11%	14%	0
STRONGLY DISAGREE	2%	0	0	9%
AVERAGE RESPONSE	4.12	4.19	4.00	4.09

While the researcher thought that the response to this statement would closely match that of statement number three, (helped focus on the real issues), the actual results showed less of a correlation than expected. In relation to statement number three, the student and industry groups each had a lower average response, while the Government group had only a slightly lower response. Furthermore, while 91% of the students and industry groups either strongly agreed or agreed with the statement that simulated negotiation helped them focus on the real issues, only 81% of the students and only 82% of the industry participants correspondingly agreed with the statement that simulated negotiation helped them identify issues not previously identified.

In the aggregate, this statement generated slightly more negative responses than any of the previous statements. These responses may indicate one of two things: (1) that for some individuals, the simulated negotiation process has little value in identifying new issues, or (2) that these individuals had already done a thorough job of preparation and no new ground was unearthed. Judging from the responses to some of the open-ended questions, one is lead to believe that the latter is true. In those instances where the buyer had done a very thorough job of preparing for the negotiation, the failure to reveal new issues was probably a function of sound preparation vice a failure of the simulated negotiation process.

Overall then, while some negative responses were generated, the great majority of the participants felt that the simulation was helpful in identifying previously unidentified issues.

6. The simulated negotiation helped me formulate an improved line of inquiry.

Strongly		No		Strongly
Agree		Opinion		Disagree
5	4	3	2	1

This statement was designed to measure the respondent's belief that the simulated negotiation had helped them to evaluate the effectiveness of their line of inquiry and to improve upon it going into the actual negotiation. The results are presented in Table X.

TABLE X
HELPED IMPROVE LINE OF INQUIRY

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
STRONGLY AGREE	46%	52%	29%	55%
AGREE	38%	33%	50%	36%
NEUTRAL	10%	11%	7%	9%
DISAGREE	4%	4%	7%	0
STRONGLY DISAGREE	2%	0	7%	0
AVERAGE RESPONSE	4.23	4.33	3.86	4.45

Based on the literature on the value of role playing and simulated negotiation, the researcher expected that there

would be strong agreement with this statement. This expectation was confirmed as the responses to this statement indicated that a majority of the participants (84%) either strongly agreed or agreed that the simulation had indeed helped them formulate an improved line of inquiry. The industry group had the strongest response with over half of the participants (55%), strongly agreeing with the statement, followed by the students with 52%, and the Government group with considerably less at only 29%.

Again, the Government group had a lower average response than the other two groups. Only in the Government group were there any respondents who strongly disagreed with this statement, indicating that in some cases the simulation may not help improve the line of inquiry. In general, however, the evidence appears clear from the responses that the simulation was helpful in formulating an improved line of inquiry.

7. Based on the simulated negotiation, I changed my strategy and tactics going into the "actual" negotiation.

Strongly Agree		No Opinion		Strongly Disagree
5	4	3	2	1

This statement was developed to determine whether or not the respondents had changed their strategy and tactics going into the actual negotiation because of what had happened during the simulation. The belief by the researcher was that the

simulation would be able to show the participant whether or not their strategy and tactics were viable in a real life scenario. If the strategy and tactics worked during the simulation, the researcher postulated that the participant would change little, if anything. Of course the converse was also believed to be true. That is, if the participant's strategy and tactics failed miserably during the simulation, then they would be that much more likely to change them going into the actual negotiation. The results are presented in Table XI.

TABLE XI
CHANGED STRATEGY AND TACTICS

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
STRONGLY AGREE	35%	30%	50%	27%
AGREE	31%	33%	22%	36%
NEUTRAL	6%	7%	0	9%
DISAGREE	11%	15%	7%	9%
STRONGLY DISAGREE	17%	15%	21%	19%
AVERAGE RESPONSE	3.54	3.48	3.71	3.45

Based on intuition and the results of the NPS field experiment, the researcher expected to obtain more responses on the ends of the spectrum. That is respondents either strongly agreeing or strongly disagreeing with the statement. To a great extent, this expectation held true. The majority

of the responses tended to cluster at the ends of the scale rather than migrate towards indifference in the middle.

Interestingly enough, however, more of the respondents indicated that they changed their strategy and tactics going into the actual negotiation as opposed to keeping them the same. Overall, for example, 66% of the respondents indicated that they strongly agreed or agreed that they changed their strategy and tactics compared to only 28% who strongly disagreed or disagreed with the statement. These percentage of responses were consistent across all of the groups.

Of the three groups, the Government participants had the highest percentage of respondents (50%) indicating that they strongly agreed that they had changed their strategy and tactics, compared to only 30% of the students and only 27% of the industry participants. Again, the student and industry participants were very closely correlated with a 3.48 and 3.45 average response rate respectively, while the Government participants had a 3.71 average response rate.

The researcher then looked at the correlation between those individuals who strongly agreed/disagreed or agreed/disagreed that they had changed their strategy and tactics going into the actual negotiation and the probability that the final negotiated price was higher or lower than the price they obtained during the simulation. Table XII gives the frequency of the responses for this correlation.

TABLE XII

CORRELATION BETWEEN CHANGED STRATEGY AND
PRICE COMPARISON TO SIMULATED NEGOTIATION PRICE

	HIGHER	LOWER	IMPASSE
STRONGLY AGREE	3	10	3
AGREE	5	10	1
NEUTRAL	1	0	1
DISAGREE	4	1	1
STRONGLY DISAGREE	0	7	2

Of those individuals who strongly agreed or agreed that they changed their strategy and tactics going into the actual negotiation, 62.5% of them negotiated a lower price when compared to the simulated negotiation price. Conversely, only 25% of these same individuals negotiated a higher price and the other 12.5% of the negotiations resulted in an impasse. While no direct correlation can be drawn between the individual's performance in the simulation and in the actual negotiation, the results indicate that, in the majority of the cases, the simulation may have been a useful technique for evaluating and changing the negotiator's strategy and tactics. In other words, a majority of the respondents changed their strategy and tactics in such a way as to improve their performance in the actual negotiation thereby reducing the final negotiated price.

On the opposite end of the spectrum, those individuals who strongly disagreed or disagreed that they changed their

strategy and tactics going into the actual negotiation, 53% of them negotiated a lower price in comparison to the simulated negotiation price. Likewise, only 27% of these individuals negotiated a higher price and the remaining 20% resulted in an impasse. In comparison to the previously mentioned groups then, a similar pattern has emerged. That is, a majority of the respondents who did not change their strategy and tactics going into the actual negotiation were able to lower the final negotiated price and thus improve the negotiated outcome.

Looking at the results from these two groups then, an incongruous pattern emerges where both groups appear to improve the price in the actual negotiation. What may explain this apparent dichotomy in results lies in the reasons³ why people did or did not change their strategy and tactics. In the case of those who did change their strategy, many of them realized during the simulation, areas where they were weak and where they could improve their strategy. In the case of those individuals who did not change their strategy and tactics, they realized during the simulation that they had a winning formula for success and therefore did not need to make any changes going into the actual negotiation. Only minor refinements may have been needed in those cases.

³ These reasons were discussed with the researcher during the interview portion of the experiment or were provided on the researcher debrief worksheet.

Again, it should be emphasized that it is difficult to draw any direct conclusions when comparing the results of the simulation to the actual negotiation due to the inherent differences between the two. However, it is noteworthy that the polarized groups at the opposite ends of the scale were the ones who had a higher probability of lowering their price in the actual negotiation in comparison to the simulation. This suggests, that the simulation may have played a significant part in shaping the negotiators' position and thus helped them achieve a more desirable outcome.

8. Based on the simulated negotiation, I changed my minimum, maximum and objective targets.

Strongly Agree		No Opinion		Strongly Disagree
5	4	3	2	1

This statement was developed to determine to what extent the respondents had changed their minimum, maximum and objective targets going into the actual negotiation because of what had happened during the simulation. Again, the belief by the researcher was that the simulation would be able to demonstrate to the participant the viability of their target positions and to show them whether or not they were valid under scrutiny. If the target points were appropriate during the simulation, the researcher postulated that the participant would change them little, if at all. Conversely, if the negotiator's target points appeared to be "out of line" during

the simulation, then they would be more likely to change them going into the actual negotiation. The results are presented in Table XIII.

TABLE XIII
CHANGED MINIMUM, MAXIMUM, OBJECTIVE TARGETS

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
STRONGLY AGREE	36%	41%	29%	36%
AGREE	25%	22%	14%	46%
NEUTRAL	36%	41%	7%	0
DISAGREE	8%	7%	14%	0
STRONGLY DISAGREE	23%	19%	36%	18%
AVERAGE RESPONSE	3.44	3.59	2.86	3.82

The responses to this statement were similar to the previous one. That is, the majority of the responses tended to be at the ends of the scale rather than towards the middle, indicating indifference to change. Likewise, the majority of the responses indicated that they changed their target positions as opposed to keeping them the same. Although not as pronounced as the previous statement, again a majority, 61% of the respondents indicated that they strongly agreed or agreed that they changed their target positions compared to only 31% who strongly disagreed or disagreed with the statement.

Unlike the previous statement, however, these percentages were not consistent across all of the groups.

Again, the student and industry participant responses were more closely correlated than the industry group. The industry participants had the highest response to changing their target points, with 82% of the respondents either strongly agreeing or agreeing with the statement, followed by the students with 63%. The industry group produced only 43% in favor of changing their target points.

As expected, the groups flip flopped their relative positions in the reverse. That is, of the groups who strongly disagreed or disagreed with changing their target positions, the Government group came out on top with 50% of the respondents, followed by the students with 26% and less than half the percentage of industry participants with only 18%.

While the majority of the respondents indicated that they changed their target positions, the polarization of the responses appears to indicate a similar phenomenon as seen on the previous statement. That is, the simulation may have helped the participants see the validity of their target positions and then enabled them to make appropriate changes as necessary.

9. The simulated negotiation was an extremely valuable preparatory technique.

Strongly Agree		No Opinion		Strongly Disagree
5	4	3	2	1

This was considered to be one of the most important statements that the participants were asked to respond to on the questionnaire. It was designed to measure the respondent's feeling that the simulated negotiation was a valuable technique in preparing them for the actual negotiation. The results are presented in Table XIV.

TABLE XIV
VALUABLE AS A PREPARATORY TECHNIQUE

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
STRONGLY AGREE	64%	67%	57%	64%
AGREE	25%	30%	22%	18%
NEUTRAL	7%	3%	14%	9%
DISAGREE	2%	0	0	9%
STRONGLY DISAGREE	2%	0	7%	0
AVERAGE RESPONSE	4.46	4.63	4.21	4.36

Based on intuition and the NPS field experiment, the researcher expected that the majority of the respondents would at least agree with this statement. This expectation was confirmed as the responses to this statement indicated that across all of the groups, the participants felt that the simulation was indeed an extremely valuable preparatory technique in getting ready for negotiations. The students had far and away the strongest response with 97% of the respondents either strongly agreeing or agreeing with the statement.

For the first time in the series of statements, the Government participants' responses, vice the students', were more closely correlated to the industry participants. Of these participants, 82% of the industry respondents and 79% of the Government respondents either strongly agreed or agreed with the statement that the simulated negotiation was an extremely valuable preparatory technique. After discussing this statement with the Government and industry respondents, the researcher theorized that these response rates would have been even higher had it not been for the word "extremely." In other words, they felt that the simulated negotiation was a valuable preparatory technique, but they took exception to the word, "extremely" as too strong of a superlative.

While the overwhelming majority of the responses were positive, one can not overlook the fact that one industry representative disagreed, and one Government representative strongly disagreed with the statement. For these individuals, the simulated negotiation appeared to be of little value. And in the case of the Government participant in particular, she stated, "That the simulation in my case proved to be counter productive."

A final observation by the researcher is that the less experienced the individual was in negotiation, the more likely they were to value the simulated negotiation process. This observation may account for the students having a much higher positive response rate than the Government and industry

participants who were experienced negotiators. While the researcher did not collect demographic data as to years of negotiation experience for each participant, the researcher did informally note that even in the Government and industry groups, the individuals with less experience (generally less than five years), appeared to place a higher value on the simulated negotiation process. This observation is felt to be significant because it may indicate that there may be a break-even point or a point where simulated negotiations become marginally less effective as the individual gains years of negotiation experience.

10. I felt more comfortable with my strategy and tactics during the actual negotiation because I had already done the simulation.

Strongly Agree		No Opinion		Strongly Disagree
5	4	3	2	1

This statement was designed to measure the respondent's belief that the simulated negotiation made them more comfortable with their strategy and tactics going into the actual negotiation because they had already done the simulation. The researcher postulated that the participants would feel more comfortable with their strategy and tactics after having had the opportunity to use them during the simulation. Furthermore, if the participants felt more comfortable with them, then that might increase the probability of the participants improving

the negotiated outcome. The results to this statement are presented in Table XV.

TABLE XV
COMFORTABLE WITH STRATEGY AND TACTICS

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
STRONGLY AGREE	65%	63%	64%	73%
AGREE	25%	29%	22%	18%
NEUTRAL	4%	0	7%	9%
DISAGREE	4%	4%	7%	0
STRONGLY DISAGREE	2%	4%	0	0
AVERAGE RESPONSE	4.48	4.44	4.43	4.64

Based on intuition and the NPS field experiment, the researcher expected that the majority of the respondents would at least agree with this statement. Again, this expectation was confirmed as the responses to this statement indicated that across the board the participants strongly felt that the simulation had indeed enabled them to become more comfortable with their strategy and tactics. As a group, 92% of the students, 91% of the industry representatives, and 86% of the Government personnel either strongly agreed or agreed with the statement. Again there were a few dissenting opinions, two of the students and one of the Government participants. But in general, they were vastly outweighed by the concurring

affirmative responses. Other than the previous statement, no other statement generated a more positive response.

11. The simulated negotiation helped me anticipate questions.

Strongly		No		Strongly
Agree		Opinion		Disagree
5	4	3	2	1

Like the previous statement, this one was designed to measure the respondent's belief that the simulated negotiation had helped the participant to anticipate questions in the actual negotiation. The researcher postulated that because the buyer had already gone through a simulated negotiation, that they would be better equipped to handle anything that the seller might try to throw the buyer's way. Furthermore, if the buyer was able to anticipate difficult questions and concepts that the seller might present, then that might increase the buyer's probability of improving the negotiated outcome. The results are presented in Table XVI.

TABLE XVI
HELPED ANTICIPATE QUESTIONS

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
STRONGLY AGREE	33%	41%	21%	27%
AGREE	52%	41%	58%	55%
NEUTRAL	8%	7%	0	18%
DISAGREE	7%	4%	21%	0
STRONGLY DISAGREE	0	0	0	0
AVERAGE RESPONSE	4.10	4.26	3.79	4.09

Like the previous statement, the researcher expected that the majority of the respondents would agree with this statement. Again, this expectation was confirmed as the responses to this statement consistently indicated that for each group, the participants strongly felt that the simulation had helped them anticipate questions. As a group, 89% of the students, 82% of the industry representatives, and 79% of the Government personnel either strongly agreed or agreed with the statement.

However, the Government group had the lowest average response of the three groups, primarily because an equal number of the Government participants disagreed with this statement as those that strongly agreed with it. In general, however, the average response rate appeared to indicate that the simulated negotiation did indeed help the negotiator to anticipate questions. If this is true, then one could extrapolate that the simulated negotiation process might improve the negotiator's performance in the actual negotiation and thus improve the negotiated outcome.

12. The simulated negotiation helped me identify the seller's strengths and weaknesses coming into the actual negotiation.

Strongly Agree		No Opinion		Strongly Disagree
5	4	3	2	1

Similar to the previous statements, this one was developed to measure the respondent's belief that the simulated negotiation

had helped the buyer to correctly identify the seller's strengths and weaknesses going into the actual negotiation. The researcher postulated that the buyer, having already done the simulation would be able to recognize the dynamics of the seller's position and would be able to mitigate the seller's strengths and to capitalize on the seller's weaknesses. Thus, the buyer would be able to improve the negotiated outcome. The results are presented in Table XVII.

TABLE XVII
HELPED IDENTIFY THE SELLER'S POSITION

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
STRONGLY AGREE	20%	26%	7%	18%
AGREE	48%	41%	43%	73%
NEUTRAL	17%	41%	36%	9%
DISAGREE	15%	22%	14%	0
STRONGLY DISAGREE	0	0	0	0
AVERAGE RESPONSE	3.71	3.70	3.43	4.09

Based on the NPS field experiment, the researcher expected that the majority of the respondents would at least agree with this statement. This expectation was confirmed as the responses to this statement indicated that across all of the groups, the participants felt that the simulation helped them evaluate the strengths and weaknesses of the seller's position coming into the actual negotiation. The industry group had the strongest response with 91% of the respondents

either strongly agreeing or agreeing with the statement, followed by the students with 67% and the industry group with only 50%.

While none of the participants strongly disagreed with this statement, some of the students and a couple of the Government participants did disagree that the simulation had helped them in this area. Therefore, while the majority of the participants felt that the simulation was helpful in evaluating the strengths and weaknesses of the seller's position, it did not elicit as strong a response as some of the other areas. The overall average response for this statement was only 3.71 (less than "agree" on the 5 point Likert scale), whereas most of the other statements produced an average response greater than 4.1 on the scale. In general, then, the simulated negotiation process appears to be less effective in evaluating the seller's overall position.

13. The simulated negotiation improved my "overall" performance in the actual negotiation.

Strongly Agree		No Opinion		Strongly Disagree
5	4	3	2	1

This statement was designed to measure the strength of the respondent's belief that the simulation had improved their overall performance in the actual negotiation. Again, this was felt to be one of the more important questions on the questionnaire. The researcher postulated that even if some of

the buyers negotiated a higher price than the mean price of their control group counterparts, that they would feel that the simulation had helped improve their overall performance. In other words, regardless of the final outcome, these buyers felt that they had done a better job of negotiating because they had done the simulation. The researcher also felt then, that without the simulation, these same buyers might have negotiated an even higher price. Table XVIII presents the responses to statement number thirteen while Table XIX looks at the correlation between those individuals who felt that the simulation had improved their performance and how they actually performed in comparison to the control groups.

TABLE XVIII
HELPED IMPROVE OVERALL PERFORMANCE

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
STRONGLY AGREE	54%	56%	50%	55%
AGREE	35%	33%	43%	27%
NEUTRAL	7%	11%	0	9%
DISAGREE	0	0	0	0
STRONGLY DISAGREE	4%	0	7%	9%
AVERAGE RESPONSE	4.35	4.44	4.29	4.18

Based on the NPS field experiment, the researcher expected that the majority of the respondents would agree with this statement. This expectation was confirmed as the responses to this statement indicated that across each of the

groups, the participants strongly felt that the simulation had indeed helped their overall performance in the actual negotiation.

Surprisingly, the strongest response to this statement came from the Government group who had traditionally lagged behind the student and industry participants. Of the Government participants, 93% of them either strongly agreed or agreed with the statement, followed by the students with 89% and the industry participants with 82%.

The Government group response would have been even higher had it not been for one Government participant who strongly disagreed with the statement. This participant felt that the simulated negotiation was counterproductive because it softened her approach in the actual negotiation resulting in a higher price. Likewise, there was one industry participant who also strongly disagreed with this statement, but no explanation as to why was provided on their questionnaire. However, these two negative responses appear to be outliers. None of the other respondents disagreed with this statement, and the vast majority of the respondents felt that the simulation did, in fact, improve their overall performance in the actual negotiation.

Table XIX represents the percentage of buyers that negotiated a lower price than the mean price negotiated by their control groups counterparts and who also believed that the simulation improved their overall performance in the

actual negotiation. In other words, did those who felt that the simulation had helped improve their performance in the actual negotiation do any better than their control groups?

As an example of how to read Table XIX, under the student response column, 15 of the students strongly agreed with the statement that the simulated negotiation improved their overall performance. Of those 15, a total of 12 did, in fact, negotiate a lower price than their control group counterparts, resulting in an 80% positive correlation. Likewise, three students had a neutral response to this statement, yet all three of them negotiated a lower price than their control group counterparts resulting in 100%.

TABLE XIX

**PERCENTAGE OF BUYERS THAT NEGOTIATED A
LOWER PRICE COMPARED TO THE CONTROL GROUP**

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
STRONGLY AGREE	68%	80%	43%	83%
AGREE	33%	80%	33%	33%
NEUTRAL	75%	100%	NA	100%
DISAGREE	NA	NA	NA	NA
STRONGLY DISAGREE	0	NA	0	0

The cells with NA (not applicable) indicate that there were no responses in that particular category. Those cells where a zero appears indicates that none of the respondents who strongly disagreed with the statement were able to

negotiate a lower price than their control group counterparts. For example, as previously noted, only one of the Government participants and only one of the industry participants strongly disagreed with this statement. Neither of these individuals negotiated a lower price than their respective control groups.

Looking at Table XIX then, it is difficult to draw any definite, consistent conclusions. While the majority of the respondents who strongly agreed with the statement did, in fact do better than the control groups, this result was not consistent across all of the responses. In particular, less than half of the respondents who agreed with the statement actually did better than the control groups. And oddly, of those with only a neutral response, all of the students (3) and the one industry participant did better than their respective control groups.

However, despite these inconsistent results, it is clear that the majority of the respondents felt that the simulated negotiation helped improve their overall performance in the actual negotiation. And of these individuals, a majority of them did do better than their control group counterparts. One is lead to believe, then, that if these individuals had not done the simulation, they might possibly have done worse in the actual negotiation. It is recognized, however, that a belief that the simulated negotiation process helps improve performance in the actual negotiation is no

guarantee of better results over those who do not engage in simulated negotiations. About the best that can be said of simulated negotiations is that they merely improve the odds of performing better in the actual negotiation.

14. I would like to conduct more simulations in preparation for future contract negotiations.

Strongly Agree		No Opinion		Strongly Disagree
5	4	3	2	1

This statement was designed to gauge how much stock the respondents placed in the simulated negotiation process. The researcher postulated that the stronger the response to this statement, the more likely it was that the participants valued the simulated negotiation process as a valid and beneficial preparatory technique. It was felt that if the participants wanted to go through the process again, then they must see a specific value in it. The results are presented in Table XX.

Based on the previous responses to the questionnaire, the researcher expected that a majority of the respondents would agree with this statement. Again, the responses to this statement followed a typical pattern where the students and industry participants were closely correlated with a strong response, followed by a less enthusiastic Government response. The industry participants had the strongest response with 91% of the respondents either strongly agreeing or agreeing with the statement, followed closely by the students with 89%.

Trailing these two groups were the Government participants with only 72% of the respondents agreeing or strongly agreeing that they would like to conduct more simulations in the future.

TABLE XX
WOULD LIKE TO CONDUCT MORE SIMULATIONS

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
STRONGLY AGREE	60%	63%	43%	73%
AGREE	25%	26%	29%	18%
NEUTRAL	12%	11%	14%	10%
DISAGREE	1.5%	0	7%	0
STRONGLY DISAGREE	1.5%	0	7	0
AVERAGE RESPONSE	4.39	4.52	3.93	4.64

Only in the Government group were there any respondents who disagreed or strongly disagreed with this statement, indicating that for some reason they either did not like the simulated negotiation process, or they did not feel that it was worthwhile. It was clear from the responses, however, that the majority of the respondents felt that the simulated negotiation process was worthwhile and that they would like to conduct more simulations in the future.

2. Responses to Open/Close-Ended Questions

Following the Likert Scale statements, the participants were asked to respond to four open and close-ended questions. In addition to the presentation and analysis of the direct responses to each question, this section makes a correlation between the responses to questions fifteen and sixteen. This correlation examines the relationship between the experimental buyer's perception of the seller's skill (in comparison to the boss' skill in the simulation) and the actual negotiated price. The section concludes by examining the strengths and weaknesses of the simulated negotiation process as provided by the respondents.

15. How did the price you negotiated in the actual negotiation compare to the price negotiated in the simulation?

HIGHER LOWER DEADLOCK

If the actual negotiated price was higher, what do you believe accounted for the higher price?

This question was designed to see how the price the respondent negotiated during the actual negotiation compared to the price they negotiated in the simulation round. Further, if the negotiated price was higher in the actual round, the question tried to elicit from the respondent the reason(s) for the higher price. In this case, the researcher was looking for those specific factors, other than the simulation, which may have lead to the higher price. In addition, the researcher

postulated that the participants might use the simulation price as a baseline upon which they would try to improve during the actual negotiation. Therefore, the researcher expected that the participants would try to lower the price they achieved in the actual negotiation in comparison to the simulation. The results are presented in Table XXI.

TABLE XXI
ACTUAL PRICE COMPARED TO SIMULATION PRICE

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
HIGHER	25%	30%	14%	27%
LOWER	54%	41%	72%	64%
IMPASSE	15%	22%	7%	9%
NOT APPLICABLE ⁴	7%	7%	0	6%

As expected, a majority of the participants lowered the actual negotiation price in comparison to the simulation. Interestingly, the Government participants did the best in lowering the price from the simulation round. You will recall from Chapter IV, that it was the Government group who did the worst when comparing their actual negotiation price to the control group price. In their case, the simulation appeared to be dysfunctional.

⁴ The reason for the NOT APPLICABLE category was for those respondents who reached an impasse during the simulated negotiation. Obviously, the respondent could not compare the actual price to the simulation if they had reached an impasse.

Speculatively, the fact that more Government participants achieved a lower price in the actual negotiation in comparison to the simulation round may help explain why they did not do as well as the student and industry participants when comparing all of the groups' actual prices to their respective control groups. The researcher felt that because the Government participants had negotiated a relatively "higher" price in the simulation rounds than the other groups, that perhaps they felt that they had lowered the price down far enough during the actual negotiation to be considered "favorable." Table XXII below, illustrates this point by comparing the groups' simulation prices and actual negotiation prices.

TABLE XXII

COMPARISON OF SIMULATION AND ACTUAL PRICES

	SIMULATION	ACTUAL	DELTA
Student	\$2,278,500.00	\$2,195,800.00	\$ 82,700.00
Government	\$2,413,168.31	\$2,313,731.00	\$ 99,437.31
Industry	\$2,263,600.00	\$2,242,015.00	\$ 21,585.00

The Government participants had the highest mean simulation price of the three groups. Furthermore, as a group, the Government participants reduced the price from the simulation round to the actual negotiation by an average of almost \$100,000. This reduction equates to a 4.1% decrease in the actual price negotiated - the largest reduction of any of the groups. Therefore, there may have been a feeling on the

part of the Government buyers that the price was much lower than what they received in the simulation round and therefore was "good enough." This theory of lower price relativity may at least partially explain why only the Government participants did not do better than their control group.

For those individuals who did negotiate a higher actual price in comparison to the simulation, the following representative sample of comments were provided as an explanation.

- One buyer indicated that during the negotiation, she and the seller had added to the scenario and subsequently came up with a completely different agreement.
- Many of the buyers indicated that the sellers they dealt with had more information, or more persuasive cost figures than their respective bosses had during the simulation.
- Several buyers indicated that the sellers they dealt with were not willing to negotiate as much or were not willing to come down as significantly in price as their bosses had during the simulation round.
- One buyer felt that the seller he negotiated with in the actual negotiation was more skillful than their boss in the simulation.
- One of the Government buyers stated, "It [the actual price] was close to the simulated negotiation price and it was still lower than any of the other bids [originally offered by the other companies in the case]."

While these comments all appear to be valid explanations for the higher price, some of them also suggest that the simulated negotiation process may have several shortcomings.

1. In the simulation it is difficult for the boss to replicate the seller's true motivations. Therefore, the boss may come across as having a softer approach than the seller in the actual negotiation. This softer orientation may not properly prepare a buyer to deal with an overly aggressive seller.
 2. Unlike the real seller, the boss in the simulation does not have the same information and cost data. Therefore, the boss' arguments may not be as persuasive from a factual point of view. One cannot expect the boss to have the same data as the seller. However, it is possible for the boss to make some erroneous assumptions and possibly lead the buyer down the wrong path.
 3. If the boss and the buyer agree to a relatively "high" price during the simulation, this may predispose the buyer to agreeing to a higher price with the seller in the real negotiation. In other words, the "higher" relative price in the simulation may take the edge off the buyer's motivation in the actual negotiation. The buyer may think, "This price was better than what I got with the boss, so it must be OK." Of course, the converse of this argument would also be true, and that would be a plus for the simulated negotiation process.
16. Compared to the simulation, do you feel that the individual in the actual negotiation was more, less, or equally skillful?

This question was designed to follow the previous one and sought to reveal the respondent's impressions of the seller's negotiation skills in comparison to the boss in the simulation. The researcher postulated that if the respondent negotiated a higher price during the actual negotiation, then they would probably rate the seller as more skillful. The researcher was not sure, however, that the converse would also be true. That is, if the respondent negotiated a lower price, the lower price may have been due to either a less skillful

negotiator or quite possibly, because the buyer felt better prepared based on the preparation they received during the simulation. The responses to question sixteen are presented below in Table XXIII.

TABLE XXIII
PERCEIVED SKILL OF SELLER COMPARED TO BOSS

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
MORE SKILLFUL	14%	22%	8%	0
LESS SKILLFUL	29%	33%	38%	9%
EQUALLY SKILLFUL	57%	45%	54%	91%

Interestingly, very few of the respondents indicated that they felt that the seller was a more skillful negotiator than the individual who played the boss. For example, none of the industry participants and only one of the Government buyers felt that the seller was a more skillful negotiator. The majority of the respondents felt that both the seller and the boss were equally skillful. In fact, during the researcher's debriefing with the experimental buyers, many of them indicated that it was difficult for them to evaluate the differences in the boss' and the sellers' skill levels because each seemed to be operating from a different point of view. Furthermore, in the researcher's opinion, the Government and industry participants appeared to be less willing to make a comparison of co-workers negotiation skills.

In Table XXIV below, a correlation is made between the perceived negotiation skill of the seller (in relation to the boss) and the price that the buyer was able to attain in the actual negotiation (in relation to the simulation price).

TABLE XXIV
CORRELATION BETWEEN SELLER'S SKILL
AND ACTUAL NEGOTIATED PRICE

SELLER'S NEGOTIATION SKILL COMPARED TO BOSS	ACTUAL PRICE COMPARED TO SIMULATION PRICE		
	HIGHER	LOWER	IMPASSE
MORE	6%	6%	2%
LESS	6%	19%	6%
EQUALLY	14%	33%	8%

This correlation produced some interesting results. Only seven respondents indicated that the seller was a **more** skillful negotiator than the individual playing the role of the seller during the simulation. Of these seven respondents, they were equally split with half negotiating a higher price and the other half negotiating a lower price in the actual negotiation. However, if the buyer rated the actual negotiator as less skillful, then the respondent was three times more likely to negotiate a lower price. Likewise, if the buyer rated the actual negotiator as equally skillful, then the respondent was more than twice as likely to negotiate a lower price.

This last observation is particularly significant because it indicates that even though the respondent felt that the actual negotiator was no more or no less skillful than the simulated negotiator, they were still twice as likely to negotiate a lower price in the actual negotiation. This result indicates that it may be the simulated negotiation which is causing the improved performance vice the skill of the negotiator.

Likewise, there appears to be a combination effect when the respondent rated the seller as less skillful. Recall from Table XXIV, that the respondent was more than three times as likely to have negotiated a lower price when they rated the seller as less skillful. In this case, it may be the combination of a less skillful seller and the additional preparation afforded by the simulated negotiation which is causing the additional probability of the improved performance.

Of course, these observations are based on a purely subjective evaluation on the part of the respondent and therefore may be unfounded. Still, it is interesting to note that the majority of the respondents not only felt that the sellers were equally skillful compared to the simulated negotiators, but also the majority of them were able to negotiate a lower price.

17. What do you believe was the greatest strength of the simulated negotiation?

This question was designed to elicit from the respondents their opinions on the strengths of the simulated negotiation process. Listed below are the highlights of these responses. In many cases, responses were similar or overlapped. In those cases, the responses were combined or grouped to avoid duplication. Frequently, the respondent gave more than one response, each of which fit into a separate category. The number in parentheses at the end of each statement gives the frequency of that particular response.

The respondents professed the following strengths of the simulated negotiation. The simulated negotiation:

- enabled them to evaluate their overall position and revealed weaknesses in their arguments. (4)
- revealed potential seller arguments and helped them anticipate points of difficulty. In doing so, it enabled them to formulate counter arguments. One participant stated, "Just to get questions and to be able to anticipate them better for the real negotiation is the most beneficial part." (10)
- enhanced their knowledge of the facts and how to deal with them during the negotiation. One respondent claimed that the simulated negotiation helped him, "get comfortable with the numbers and the situation itself." (7)
- enabled them to focus in on issues not previously considered and emphasized the relevant facts. In some cases, the simulated negotiation help them adjust or "tweak" their focus appropriately. (9)
- enabled them to brainstorm different ideas and to prepare for different contingencies. It also enabled them to get alternate strategies for use during the actual negotiation. (5)

- enabled them to try out different ideas, strategies and tactics that they would not otherwise have tried in a risk free environment. The simulated negotiation helped them to determine the effectiveness of their strategy and tactics. It also allowed them to make mistakes and to get feedback and learn from their mistakes. (13)
- enabled them to practice what they were going to say from start to finish. It also enabled them to express their ideas to ensure that they were understandable. The simulation was like a rehearsal of what may happen during the actual negotiation. (9)
- reinforced the strengths of their position and confirmed their planning. It also helped them to solidify their arguments and to clarify their objectives and the points they wanted to make during the actual negotiation. (4)
- gave the participants additional preparation which made them feel more confident. One participant claimed, "I felt much more prepared for the actual negotiation than I ever have before and therefore I was much more relaxed and confident." (8)
- enabled them to gain insight based on the boss' experience and to obtain new things to consider. The ability to obtain the boss' feedback was also rated very highly. (4)

These ten categories of responses offer some definitive strengths of the simulated negotiation process and indicate that there exists some common benefits for the participants. The most commonly touted strength of the simulated negotiation was the ability to try out different ideas, strategies and tactics in a risk free environment. The process allowed the participants to evaluate the relative merits and drawbacks of a particular approach as well as enabling them to learn from their mistakes. Of the 52 experimental buyers who engaged in simulated negotiations, 13

of them (or a full 25%) claimed this as the greatest strength of the process.

Another important strength identified by the participants was that the simulated negotiation revealed potential seller arguments or points of difficulty that might arise during the actual negotiation. The simulation then, enabled them to anticipate problem areas and to formulate counter arguments. Ten of the experimental buyers (19.2%) asserted this as the most beneficial aspect of the simulated negotiation.

The next two most popular strengths, with 9 responses each (17.3% of the experimental buyers), were that the simulated negotiation (1) enabled them to focus in on issues not previously considered and emphasized the relevant facts, and (2) enabled them to express their ideas aloud and practice what they wanted to say during the actual negotiation.

Another popular response was the assertion that the simulated negotiation provided additional preparation which in turn made the participants feel more confident entering the actual negotiation. Eight of the experimental buyers (15.4%) felt that this was an important strength of the process.

The other strengths of the simulated negotiation most often sighted are listed above with anywhere from 4 to 8 responses. Overall then, the fact that there are common threads which link so many of the responses lends credence to the belief that the simulated negotiation process offers the

participants some definite benefits. While the strengths of the process are no guarantee of the end result, the simulated negotiation does appear to improve the negotiator's probability of a more favorable outcome.

18. What do you believe was the greatest weakness of the simulated negotiation?

No system or process is without its drawbacks. This question was designed to elicit from the respondents their opinions on what they felt were the problems or weaknesses of the simulated negotiation. Listed below are the highlights of these responses. Like the previously mentioned strengths, many of the responses were similar or overlapped indicating the strength of that particular response. In many cases, responses were combined or grouped to avoid unnecessary duplication. The number in parentheses at the end of each statement gives the frequency of that particular response.

It is interesting to note here, that while many of the respondents listed more than one strength of the simulated negotiation, very few of them listed more than one weakness. In fact, the most popular response to this question was "NONE." In other words, most of the respondents did not feel that the simulated negotiation had any weaknesses (or at least they could not think of any at the time).

The respondents stated the following weaknesses of the simulated negotiation.

- None (13)
- The boss did not have the same information as the seller and therefore was unable to truly represent the seller's position and to provide rationale for the cost data. The boss can't prepare you for what will really happen. One respondent stated, "The boss can't anticipate all of the same arguments as the actual seller." All the simulation can do is really help you prepare for the "what if?" scenario. (11)
- It lacked realism and was somewhat contrived, artificial. The players were allowed to make-up information as they went along to suit their purposes without consequence. The boss did not have a stake in the outcome. (10)
- The boss does not have the background of the seller and therefore, could not approach the negotiation in the same "state-of-mind" as the seller. It provided no actual seller insight. The simulated negotiator was from the same company and assisted when necessary, so the actual adversarial condition was diminished. (7)
- The scenario had too little information to make it truly meaningful. There was a general lack of information and relevance of information. (5)
- The simulation is not a perfect tool because the boss has basically the same information as the buyer does going into the negotiation. Therefore, the boss already knows the buyer's position and bottom line. This knowledge gives the boss an unfair advantage. There is no mechanism to establish a legitimate alternate viewpoint. (5)
- It was a time consuming process that interfered with actual work. (3)
- The simulation will not work (will not be effective) unless the person playing the seller is motivated to go through the process. (2)
- Common assumptions made by the buyer and the boss might affect the expectations of the buyer in the actual negotiation and potentially "cloud" the buyer's judgement. In other words, erroneous assumptions made during the simulation could negatively predispose the negotiator prior to the actual negotiation. (2)
- It was difficult to take completely serious because the buyer knew that the boss was not the seller and therefore did not have the same information. (2)

- All the simulation and preparation in the world will not help if the seller is not willing to negotiate. (1)
- Knowing my boss was judging my performance during the simulation and that my next raise was on the line made me uneasy to do a good job. (1)

While thirteen of the respondents (25%) indicated no weakness in the simulated negotiation, it is obvious from the other responses above that the process is not without its drawbacks. Perhaps the biggest weakness (or at least the one most commonly noted, 11 responses) was the fact that the boss does not have the same information as the seller and therefore is unable to truly represent the seller's position. However, this weakness is nothing more than a statement of the obvious.

In real life, a boss or a co-worker playing the role of the seller would never have the same information as the "real seller" and therefore cannot anticipate all of the same arguments as the actual seller. What the boss can do, however, is to try to at least reveal potential seller arguments as noted in the strengths of the simulated negotiation. As previously pointed out, all the simulation can do is really help you prepare for the "What if..." scenario. This, in and of itself, however, is a valuable tool in preparing for negotiations.

A similar drawback that drew seven responses (13.5% of the respondents), indicated that since the boss does not have the same background as the seller, it was impossible for the

boss to approach the negotiation in the same "state-of-mind" as the seller. The feeling on the part of these respondents was that the boss was unable to provide any actual seller insight. Furthermore, because the boss was from the "home team," the necessary adversarial condition was diminished.

This weakness however, runs counter to some of the strengths already mentioned. For example, ten of the respondents indicated that a strength of the simulated negotiation was the fact that it revealed potential seller arguments. Furthermore, the fact that several of the simulated negotiations resulted in an impasse, leads one to believe that there was no shortage of an "adversarial condition" in some of the negotiations between the experimental buyers and their bosses. These seemingly contradictory responses then, point up the fact that the simulated negotiation is very much tied to the experience, skill, and motivation of the participants. What may be perceived as strength by one participant, may be seen as a weakness by another.

Another weakness that drew ten similar responses (19.2% of the experimental buyers), was the fact that the simulated negotiation lacked realism and came across as contrived and artificial. In a couple of cases, the players fabricated information as they went along to create an advantage for themselves. Because the simulation was not real nor binding in any way, there were no consequences involved.

A similar and potentially more serious weakness was the fact that it was difficult for several of the participants to take the simulation seriously. This weakness seemed to stem from the fact that the buyer knew that the boss was not the real seller and the boss really didn't have any more information than they did. One of the respondents stated, "It was hard to take it (the simulation) serious when you know that the opposition (the boss) had the same data. The process was not a good representation of real life because the relationship with the boss and their mind set would be different than that of the actual seller." These responses go back to the point that the success or failure of the simulated negotiation is very much a function of the participants and their attitudes towards the process. Fortunately, only a couple of the respondents indicated this particular weakness.

A final weakness worth mentioning, was the fact that the simulation could potentially "cloud" the buyer's judgement and predispose them in an erroneous or an unfavorable way. Only two of the 52 experimental buyers indicated this particular response. In particular, one respondent indicated that she, "...went into the real negotiations based on what happened and what was discussed in the simulation. If I had used the same figures and tactics that I had originally used going into the simulation, I could have dropped the price....For me the simulation was counterproductive." These responses then, though somewhat isolated, do bring to light a

real potential danger in the simulated negotiation. However, as previously noted, so much of what happens during the simulated negotiation is a function of the participants. Therefore, many of the strengths and weaknesses are derived from the participants themselves vice the process.

3. State of Mind Qualitative Comparisons

Question nineteen presented the respondent with a series of twelve different adjectival phrases describing various states of mind and asks the respondent to indicate whether they felt "MORE," "EQUALLY," or "LESS" of that particular quality in the actual negotiation in comparison to the simulation.

19. Compared to the simulation, how did you feel during the actual negotiation?

For example, did the respondent feel more, equally or less confident during the actual negotiation in comparison to the simulation. This question was designed to qualitatively measure the respondent's state of mind going into the actual negotiation and to compare it to how they felt during the simulation. The researcher postulated that if, for example, the respondent indicated that they felt "more confident" during the actual negotiation, that this increased confidence was a direct result of having gone through the simulated negotiation.

Each adjectival phrase is presented individually and a tabulation of the responses is presented in a table. Each cell in the table gives the percentage of participants selecting a particular response, i.e., more, equally or less, and further breaks down the responses by group for the purposes of comparison. Though it was not offered as a choice on the questionnaire, in some cases, the respondents indicated that they did not feel a particular quality at all. For example, several of the respondents indicated that being bored was not an element in either the simulation or the actual negotiation. Therefore, the category "NOT AT ALL" was added where appropriate. Listed below are the results from the twelve adjectival phrases indicating how the respondent felt during the actual negotiation in comparison to the simulation.

TABLE XXV

CONFIDENT

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
MORE	83%	85%	79%	82%
EQUALLY	17%	15%	21%	18%
LESS	0	0	0	0

Based on the NPS field experiment, the researcher expected that the majority of the respondents would feel MORE confident. This expectation was confirmed as the responses to this statement indicated that across the board the

participants felt MORE confident during the actual negotiation. On this particular adjectival quality, all of the groups had very consistent responses. Based on these response rates, it appears clear that doing the simulation increased the confidence level in the majority of the participants.

TABLE XXVI

ANXIOUS

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
MORE	8%	7%	7%	9%
EQUALLY	63%	66%	43%	18%
LESS	29%	27%	50%	73%

Intuitively, the researcher expected that if a majority of the respondents felt MORE confident, then a majority of them would also feel LESS anxious. This expectation was not confirmed, however, as most of the respondents indicated that they felt equally anxious during the actual negotiation. This result was especially true within the student group. And while a greater number of the students felt LESS anxious as opposed to MORE (27% versus 7%), the majority (66%) felt equally anxious, indicating that the simulation did not have a profound effect in decreasing the student's anxiousness. This result may have been due in part

to the inexperience level of the students and the anxiety created when performing in unfamiliar territory.

In contrast to the students, a majority in both the Government group (50%) and especially in the industry group (73%) indicated that they felt less anxious during the actual negotiation. This result indicates that for these groups, the simulation may be more effective in decreasing the anxiety level of the participants. Again, this difference between the students and the Government and industry participants may be due to the fact that the latter are more experienced in negotiation and therefore feel less anxious. Overall, however, it is unclear from the results whether or not the simulation helped decrease the anxiety level in the participants.

TABLE XXVII

BORED

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
MORE	8%	11%	7%	0
EQUALLY	42%	37%	36%	64%
LESS	38%	45%	36%	27%
NOT AT ALL	12%	7%	21%	9%

On this particular adjectival quality, the researcher postulated that the more experienced negotiators, i.e., the Government and industry participants, would be MORE bored,

while the less experienced student negotiators would be less or equally bored. However, these expectations were not completely confirmed. While the students did indicate that a majority of them were equally or less bored, very few of the Government and industry participants indicated that they felt more bored. In fact, three of the fourteen Government participants and one of the eleven industry participants indicated that being bored was not an element at all. On balance, the majority of the participants indicated that they were equally bored, indicating that the simulation did little in the way of changing this adjectival quality.

TABLE XXVIII

RELAXED

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
MORE	69%	78%	57%	64%
EQUALLY	19%	15%	29%	18%
LESS	12%	7%	14%	18%

Intuitively, the researcher expected that a strong negative correlation would exist between the respondents' feelings of being anxious and of being relaxed. That is, if the respondent indicated that they felt less anxious, then they would also probably feel more relaxed and vice versa. To a great extent, this expectation was confirmed, especially in the Government and industry groups where 57% of the

Government participants and 64% of the industry participants indicated that they felt MORE relaxed in the actual negotiation. Since an approximately equal percentage of these respondents previously indicated that they felt LESS anxious, these results are consistent. In contrast, while a large majority of the students indicated that they felt EQUALLY anxious in the actual negotiation, an even larger majority of them indicated that they felt MORE relaxed. Overall, it is clear from these results that the majority of the participants felt MORE relaxed after having done the simulated negotiation.

TABLE XXIX
TIME PRESSURED

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
MORE	17%	22%	0	27%
EQUALLY	39%	33%	50%	36.5%
LESS	39%	41%	36%	36.5%
NOT AT ALL	5%	4%	14%	0

The results on the element of feeling time pressured during the actual negotiation were inconclusive as the responses were fairly evenly distributed across the entire range of responses. Even among the groups, no definite response pattern emerged. Originally, the researcher postulated that because the respondents had done the simulation and felt better prepared to engage in negotiations

with the real seller, that they might also feel less time pressured. However, this expectation was not confirmed. Therefore, the simulated negotiation appears to do little in the way of alleviating the feeling of time pressure in the actual negotiation.

TABLE XXX

FOCUSED

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
MORE	75%	70%	71%	91%
EQUALLY	23%	26%	29%	9%
LESS	2%	4%	0	0

Based on the NPS field experiment, the researcher expected that the majority of the respondents would feel MORE focused. This expectation was confirmed as the responses to this statement indicated that across all of the groups, the participants felt MORE focused during the actual negotiation. In particular, ten of the eleven industry participants (91%) felt MORE focused. Based on these response rates, it appears clear that doing the simulation enables a large majority of the participants to become MORE focused.

TABLE XXXI

PREPARED

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
MORE	77%	89%	64%	64%
EQUALLY	23%	11%	36%	36%
LESS	0	0	0	0

Like the previous adjectival quality, the researcher expected that a majority of the respondents would feel MORE prepared in the actual negotiation. This expectation was confirmed, but the results were not as consistent across all of the groups. The students had the strongest response to this adjectival quality with 89% of the respondents indicating that they felt MORE prepared in the actual negotiation. And while the Government and industry groups still had a majority indicate that they too felt MORE prepared, the percentage of respondents was considerably less at only 64%. The other 36% of the Government and industry participants felt equally prepared. For them, the simulation may only have served to confirm their planning vice making them feel any more prepared in a significant way. Still, the response rates do indicate that doing the simulation helped a majority of the participants feel MORE prepared in the actual negotiation.

TABLE XXXII

RESENTFUL

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
MORE	4%	4%	7%	0
EQUALLY	35%	44%	21%	27%
LESS	44%	37%	43%	64%
NOT AT ALL	17%	15%	29%	9%

Based on the study conducted by Dr. David Burt, the researcher expected that a degree of resentment might become a factor with the participants during the actual negotiation, particularly with the Government and industry representatives.

Dr Burt's research had employed experienced purchasing personnel, many of whom had considerable experience in negotiation. He felt that it was possible that some level of "boredom" or "resentment" may have crept into his experiment when the experimental buyers were conducting the actual negotiation. [Ref. 42] However, contrary to this expectation, many of the participants indicated that they felt LESS resentful, if at all. This was particularly true for the Government and industry participants, who had a majority (43% and 64% respectively) indicate that they felt LESS resentful during the actual negotiation. Likewise, the students were almost evenly divided between feeling EQUALLY and LESS resentful. These results then, counter the assumption that

resentment may have been a factor in the actual negotiation. Overall, this particular adjectival quality did not appear to be a significant factor.

XXXIII

MOTIVATED

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
MORE	65%	67%	64%	64%
EQUALLY	31%	26%	36%	36%
LESS	4%	7%	0	0

Based on the NPS field experiment, the researcher expected that the majority of the respondents would feel MORE motivated. This expectation was confirmed as the responses to this statement indicated that across the board the participants felt MORE motivated during the actual negotiation. And while the response on this adjectival quality was not as strong as the response to "confident," all of the groups had very consistent response rates. Only two of the 27 students indicated that they felt LESS motivated during the actual negotiation. Based on these response rates, it appears that doing the simulation increased the motivation level in the majority of the participants.

TABLE XXXIV

CREATIVE

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
MORE	65%	78%	50%	55%
EQUALLY	31%	18%	43%	45%
LESS	2%	4%	0	0
NOT AT ALL	2%	0	7%	0

Based on the NPS field experiment, the researcher expected that the majority of the respondents would feel MORE creative. This expectation was confirmed as the responses to this adjectival quality indicated that with the exception of one student and one Government participant, a majority in each group felt MORE creative. The students had the strongest response to this adjectival quality with 78% of the respondents indicating that they felt MORE creative in the actual negotiation. And while the Government and industry groups still had a majority indicate that they too felt MORE creative, the percentage of respondents was considerably less at only 50% and 55% respectively. For these two groups, experience and intuition may have been a more significant factor than creativity when it came time to negotiate with the actual seller. Still, the response rates do indicate that engaging in the simulation helped a majority of the participants feel MORE creative in the actual negotiation.

TABLE XXXV
KNOWLEDGEABLE

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
MORE	81%	93%	71%	64%
EQUALLY	17%	7%	21%	36%
LESS	0	0	0	0
NOT AT ALL	2%	0	8%	0

Like the previous adjectival quality, the researcher expected a majority of the respondents would feel MORE knowledgeable in the actual negotiation after having conducted the simulation. This expectation was confirmed as the response rates across all of the groups indicated that the participants felt MORE knowledgeable during the negotiation with the actual seller. However, the response rates did vary in strength across the groups. For example, 93% of the students indicated that they felt MORE knowledgeable during the actual negotiation, compared to only 71% in the Government group and only 64% in the industry group. Because the students have little negotiation experience, these results appear to indicate that the simulation may be more effective in increasing the knowledge level of the novice negotiators vice the more experienced negotiators found in the Government and industry groups. Because of the experience levels in the Government and industry participants, there may simply be less

for them to learn from the simulation. The more experienced negotiators in the Government and industry groups may account then, for the higher percentage of respondents who felt EQUALLY knowledgeable. Still, even in the more experienced Government and industry groups, the response rates indicate that doing the simulation helped a majority of the participants feel MORE knowledgeable in the actual negotiation. Apparently, there is always something more to learn - a new insight, a new approach, a new counter argument.

TABLE XXXVI

FRUSTRATED

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
MORE	13%	19%	14%	0
EQUALLY	21%	19%	7%	45%
LESS	58%	59%	58%	55%
NOT AT ALL	8%	3%	21%	0

On this final adjectival quality, the researcher postulated that the participants might feel LESS frustrated after having conducted the simulation. The assumption was that the participants would be better prepared to negotiate and thus would be more skillful (hence less frustrated) in attempting to barter effectively with the actual seller. This expectation was confirmed as the responses to this adjectival quality indicated that among all of the groups, the

participants felt LESS frustrated during the negotiation with the actual seller. Furthermore, as seen in Table XXXVI, all of the groups had very consistent response rates.

Unfortunately, the results in Table XXXVI also indicate that the simulation was by no means a guarantee that an individual would feel LESS frustrated. More than just a few of the respondents indicated that they felt EQUALLY or even MORE frustrated in the actual negotiation. In the cases where the individual felt EQUALLY or MORE frustrated, the simulation may have predisposed the participants in such a way that they felt more adamant about their position, and hence, felt more frustrated during the actual negotiation if the discussions were not going according to plan. In the final analysis, however, for whatever reason, the results indicate that a consistent majority of the respondents did in fact feel LESS frustrated after having conducted the simulated negotiation. This concludes the analysis of the responses to question nineteen.

4. Cause and Effect Relationship of Simulations

This section presents the results from the final question on the questionnaire. Following that presentation, the results from the researcher's interviews with the experimental buyers will be synopsized and analyzed.

20. Regardless of the price you negotiated in the actual negotiation, do you feel that you did a better job of negotiating because you had done the simulation?

YES

NO

This question was designed to measure the respondents' belief that they were able to negotiate more effectively during the actual negotiation, specifically asking if it was the simulation which led to this improved performance. The core of this question was designed to elicit from the respondent their belief in the cause and effect relationship between the simulation and their performance in the actual negotiation. That is, because the experimental buyers had conducted a simulation, they were able to negotiate more effectively in the actual negotiation. The results are presented below in Table XXXVII.

TABLE XXXVII

DID A BETTER JOB OF NEGOTIATING

	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
YES	96%	96%	93%	100%
NO	4%	4%	7%	0

Based on the results of the NPS field experiment, the researcher expected that the vast majority of the respondents would indicate YES to this question. Not too surprisingly, 96% of the respondents agreed that the simulation had indeed helped them to negotiate more effectively in the actual

negotiation. Only two individuals, one student and one Government representative, indicated NO to this question. In both cases, the individuals negotiated prices that were significantly higher than not only their respective group means, but also their control group counterparts. For these two individuals the simulation had been dysfunctional.

In the case of the student, the simulation resulted in an impasse. During that simulation, there was little real negotiation being conducted between the student and the individual playing the boss' role. The student appeared unnecessarily obstinate during the simulation and the negotiation quickly broke down resulting in the impasse.

Surprisingly, the student's responses to most of the questions on the questionnaire were positive and in favor of the simulated negotiation process. He **strongly agreed**, for example, that the simulated negotiation was an extremely valuable preparatory technique and that he would like to conduct more simulations in preparation for future contract negotiations. Furthermore, he indicated that he felt MORE confident, MORE relaxed, MORE prepared, MORE knowledgeable, and LESS frustrated during the actual negotiation. These responses appear to be inconsistent with his final evaluation of his inability to negotiate effectively with the actual seller. The only explanation offered for this negative response, was the fact that he "came to expect that part of the scenario where the seller said he really could not show

his costs." In other words, he felt that the individual playing the role of the boss in the simulation had misled him to believe something that was not true and therefore, the simulation eroded his ability to negotiate more effectively with the actual seller.

The Government representative had a similar explanation as to why she felt that she had not done a better job of negotiating with the actual seller. She stated,

My figures and tactics would have been right on if it had not been for the simulation. I went into the real negotiations based on what happened and was discussed in the simulation. If I had used the same figures and tactics (softened a little) I could have dropped the price to \$219 per barrel. Instead, I used the new figures based on the simulation and only got \$252 per barrel.

From this Government representative's point-of-view, the simulation had focused her in the wrong direction and caused her to perform worse in the actual negotiation.

These two examples echo one of the drawbacks of the simulated negotiation process previously mentioned. Specifically,

Common assumptions made by the buyer and the boss might affect the expectations of the buyer in the actual negotiation and potentially "cloud" the buyer's judgement. In other words, erroneous assumptions made during the simulation could negatively predispose the negotiator prior to the actual negotiation.

In both of these cases, it appears that the buyer came away from the simulation with an erroneous assumption which

subsequently caused them to do worse in the actual negotiation. Both of these individuals felt they could have done better in the actual negotiation had it not been for the simulation.

The fact that two of the 52 experimental buyers had a similar response to the simulation should give pause for concern. However, the fact remains that 96% of the participants felt that they had done a better job of negotiating with the real seller because they had been properly prepared through the simulated negotiation process. This overwhelming majority lends credibility to the simulated negotiation process as an effective preparatory technique for contract negotiations.

C. SUMMARY

This chapter presented and analyzed, in detail, the responses to the Post Negotiation Questionnaire. The results were tabulated and presented in a series of tables which gave the percentage of participants selecting a particular response. The response rates were further broken down within each group for the purpose of comparison between the groups. The tables also provided the average numeric response for each group.

Table XXXVIII summarizes the average response rates for each of the Likert Scale questions (questions 1-14). The scale that was used is as follows:

Strongly
Agree
5

4

No
Opinion
3

2

Strongly
Disagree
1

TABLE XXXVIII

SUMMARY OF LIKERT SCALE QUESTIONS

SIMULATED NEGOTIATIONS:	TOT	STU	GOV	IND
1. Helped evaluate negotiation strategy.	4.30	4.44	3.79	4.63
2. Helped evaluate negotiation tactics.	4.29	4.44	4.07	4.18
3. Helped focus on the real issues.	4.25	4.26	4.07	4.45
4. Helped solidify arguments.	4.39	4.40	4.29	4.45
5. Helped identify new issues.	4.12	4.19	4.00	4.09
6. Helped improve line of inquiry.	4.23	4.33	3.86	4.45
7. Caused change in strategy and tactics.	3.54	3.48	3.71	3.45
8. Caused change in Min, Max, and objective targets.	3.44	3.59	2.86	3.82
9. Were valuable as a preparatory technique.	4.46	4.63	4.21	4.36
10. Increased comfort level with strategy and tactics.	4.48	4.44	4.43	4.64
11. Helped anticipate questions.	4.10	4.26	3.79	4.09
12. Helped identify the seller's position.	3.71	3.70	3.43	4.09
13. Helped improve overall performance.	4.35	4.44	4.29	4.18
14. Would like to conduct more.	4.39	4.52	3.93	4.64

Upon examination of Table XXXVIII, it is interesting to note that the student and industry groups appear to correlate more closely than the Government group. Intuitively, the researcher expected that there would be a higher correlation between the industry and Government groups because of the greater similarity in their demographics. However, the response rates indicated a higher correlation between the student and industry groups.

Beyond the Likert scale questions, the chapter examined the strengths and weaknesses of the simulated negotiation as provided by the respondents. It also asked the respondent to make a qualitative comparison as to how they felt during the actual negotiation in comparison to the simulation. Table XXXIX summarizes the most often cited responses to question nineteen. The question had twelve different adjectival qualities and asked the respondents if they felt MORE, EQUALLY, or LESS on each during the actual negotiation.

Finally, the chapter revealed that 96% of the respondents felt that they did a better job of negotiating because they had done the simulation. While the simulated negotiation process is not without its drawbacks, the statistical results and positive statements provided on the questionnaire lend credibility to its use as a valuable preparatory technique for contract negotiations.

The next chapter will provided a summary of the responses received during the researcher's interviews with the

experimental buyers and will also examine the results from the impasse scenario.

TABLE XXXIX
SUMMARY TABLE OF ADJECTIVAL QUALITIES

	TOT	STU	GOV	IND
Confident	MORE	MORE	MORE	MORE
Anxious	EQUALLY	EQUALLY	LESS	LESS
Bored	EQUALLY	LESS	LESS	EQUALLY
Relaxed	MORE	MORE	MORE	MORE
Time Pressured	EQUALLY	LESS	EQUALLY	LESS
Focused	MORE	MORE	MORE	MORE
Prepared	MORE	MORE	MORE	MORE
Resentful	LESS	EQUALLY	LESS	LESS
Motivated	MORE	MORE	MORE	MORE
Creative	MORE	MORE	MORE	MORE
Knowledgeable	MORE	MORE	MORE	MORE
Frustrated	LESS	LESS	LESS	LESS

VI. ANALYSIS OF DATA BASED ON THE INTERVIEWS

A. INTRODUCTION

In addition to the questionnaires, a majority of the participants were interviewed by the researcher. Several open-ended questions were asked either to clarify their responses on the questionnaires or to obtain additional impressions and reactions to the simulated negotiation process. For those individuals that were unable to be interviewed directly by the researcher, (either because of their remote location or time constraints) their responses were recorded directly on the researcher debrief worksheet. In some cases, the participants did not fill out the Researcher Debrief Worksheet or left parts of it blank. An example of the researcher debrief worksheet is contained in Appendix C.

The Researcher Debrief Worksheet contained seven different questions. However, only three of the questions will be presented in this chapter. The responses to the other four questions were either adequately covered by the questionnaire or were felt to have little bearing on the relative value of the simulated negotiation process as a preparatory technique. Therefore, these questions will not be discussed. Each question will be presented individually and the responses will

be listed according to the respondent's respective group, i.e. student, Government, or industry.

Finally, this chapter will look at the results of those negotiations which ended in an impasse.

B. DATA PRESENTATION AND ANALYSIS

Listed below are the respective group responses to the following questions. The first question was designed to elicit from the respondents their overall impression(s) of the simulation.

What was your general reaction to the simulated negotiation process?

STUDENTS

- The simulation was a great preparatory technique. You can put things down on paper, but until you actually hear it played out, you are not sure how your thoughts and ideas will come across to another person.
- The simulation was a real valuable thing to do. I have not seen that technique used before at other activities, but it was definitely a worthwhile thing to do. However, activities might be reluctant to use simulations because it is very time consuming.
- It was very helpful.
- The simulation was a very valuable technique to use in preparing for negotiations.
- It was a good preparatory technique.
- It was beneficial. I believe that simulations make you better prepared and give you additional points and facts to use against your opponent during the real negotiations. I can really see the benefits of doing simulations. However, it is a lot of work.

- I thought it was helpful. I feel that simulations are an excellent way to build confidence and increase performance in actual negotiations. I personally felt it was of great assistance.
- I think it was helpful because it gave me a session to work out any discrepancies. If I would do anything different, I would do two simulations instead of one. I would do one the day before to refine my strategies and one about 30 minutes before the actual negotiation to get warmed up.
- It was fun and I was more prepared because I had done the simulation.
- It was useful and helpful and made me more prepared.
- The simulated negotiation process was worthwhile, but in my case it was not that helpful because the actual negotiator was unreasonable.
- It was an unrealistic scenario, but overall it was a worthwhile process to go through. It gave me a chance to practice my arguments.
- I liked the process. I had previously done a simulation in my group and thought it was a beneficial process.
- I liked the idea of doing a simulation. I had done "murder boards" in the past in preparation for admiral's briefs. The simulation was a similar process and I looked forward to it. The simulated negotiation was beneficial and I am a believer in the process.
- I looked forward to the simulation. It gave me additional preparation. However, the boss was not able to play as good of a devil's advocate as I wanted because he had the same information I did.

GOVERNMENT REPRESENTATIVES

- The simulation was good in that it helped prepare for the actual negotiation. However, there was always the recognition that the person sitting across the table during the simulation was still on my side and that their motivation was different than the seller.

- The simulation was not very real world. The process is too artificial.
- I learned some things from it. The simulation helped me explore new ground in a risk free environment.
- The simulation was a useful tool. I strongly recommend using it, especially for new people.
- The simulation was helpful. However, it would not be helpful in all cases because of unknown facts and factors. It is also a time consuming process.
- My figures and tactics would have been "right on" if it had not been for the simulation.
- The simulation enabled me to look at unexplored territory and consider new areas in general. The process was very helpful.

INDUSTRY REPRESENTATIVES

- It is standard procedure at our organization to do something like a simulated negotiation.
- The simulation acts as a good rehearsal. We use something similar when we review the pre-negotiation plan with the negotiation team.
- The simulation is a worthwhile step to do. I'm always talking with my boss about strategy and tactics anyway. This process is just a natural extension in the preparation for negotiation.
- The simulation was a very worthwhile experience.
- I definitely liked the simulation. We need to do a lot more of it.
- The simulation helps you gather more ideas that you would not think of. With a simulation, there is not a whole lot of cost up front, but it has the potential to pay off big.
- I liked the simulated negotiation process. I liked knowing and working with the strategy and tactics.

- The simulation was good - I can see a lot of benefit. The simulation gives you a chance to air out your arguments. It gave me the chance to see both sides of the table.
- Speaking your arguments out loud makes a big difference. With a simulation, you are able to hear how it all sounds and to see how it comes across to another person.

The next question sought to elicit from the respondents how the simulated negotiation specifically helped them prepare for the actual negotiation.

How do you think the simulation helped you in the actual negotiation? (Ask for specifics)

STUDENTS

- The simulated negotiation helped me explore new angles I had not thought about before.
- It helped me to better deal with contractor rhetoric.
- I asked questions in a different sequence than I had originally planned and therefore I felt as if the simulation improved my line of inquiry. The simulation was a good practicing technique for the actual negotiation.
- The simulated negotiation helped me make better eye contact. Going through the drill was most beneficial. The simulation improved my gamesmanship.
- The simulation helped me run through my negotiation strategy and tactics to see if they really worked.
- It emphasized the relevant facts and helped me come from a position of strength.
- I thought of additional arguments to use and I felt more prepared because I had done the simulation.
- The simulation helped me cover all the bases. I had a method of showing my position in the best possible light.

- The simulated negotiation helped me better understand the issues. It clarified and focused my position. The simulation showed me where I could make improvements and be more effective in my negotiation.
- I was able to work through the numbers better and better organize my thoughts for the actual negotiation.
- The simulation helped me refine my negotiation strategies and discover additional points the other negotiator might try to use against me. It also helped me warm up my communication skills.
- The simulated negotiation made me feel more prepared and better focused on what were the important issues.
- The simulation gave me the chance to fully articulate my arguments and to hear counter arguments.
- It helps you focus on your own facts and your own information and strengths. The simulation helps you to study for the actual negotiation.
- The simulation gave me the chance to verbalized my position and to hear and see how it worked.
- It helped in making me more confident. With the simulation, I was able to rehearse my views out loud and to see how my position sounded.
- It helped to understand my strengths and weaknesses and to better organize my agenda going into the actual negotiation.
- The simulation helped refine my strategy and tactics. The boss' debrief at the end was very helpful. The simulation was good, but without the debrief, it would not have been as beneficial.

GOVERNMENT REPRESENTATIVES

- The simulated negotiation helped me anticipate issues. It also helped me anticipate negative aspects that would have to be overcome during the negotiation. It helped me formulate my negotiation positions.

- It made me less nervous. The simulation was a good chance for rehearsal.
- The simulation was like a rehearsal. It was good practice.
- The simulation made me feel more confident and more relaxed. I felt more comfortable with the numbers. At the same time I felt more confident and anxious to negotiate against the real seller.
- I felt more comfortable with my position and approach. The simulation made me better prepared for possible seller arguments.
- In my case, the simulation proved to be counter productive. I went into the actual negotiations based on what had happened and what had been discussed during the simulation, i.e., soften my hard line position, and I ended up negotiating a higher price [for the X-pane].
- For me, it was a great learning experience and it [the simulated negotiation process] will definitely help me in the future.

INDUSTRY REPRESENTATIVES

- The simulated negotiation reinforced my position and the points that I wanted to make during the actual negotiation.
- It reinforced my position so I felt more confident about it [my position]. The simulation also enabled me to articulate my ideas more clearly.
- It helped me come up with more creative ways to get off of the starting price [for X-pane] and to keep it down.
- It forced my boss to become more involved in my negotiation. The simulation was a real good learning experience about the data. It made me learn more than if I had not done the simulation.
- The simulation enabled me to try out different strategies and tactics without hurting me. There was no risk in the simulation.

- The simulation helped me think of more creative offers to make to the seller.
- The simulation enabled me to practice my strategy. It gave me more ideas to work with and gave me a feeling of confidence.
- The simulation enabled me to figure out where there were gaps in my logic and showed me where I needed more information to backup and support my position.

The final question on the researcher debrief worksheet to be reviewed, asked the respondents to recall how they felt going into the actual negotiation.

How was your attitude different (if at all) upon entering the actual negotiation.

STUDENTS

- I felt more positive and thought I had things well in hand. I was more confident.
- I felt more confident of my position and of what I was going to do during the actual negotiation.
- I felt more comfortable with my position and the questions and responses I was going to pose.
- I felt that my position was verified.
- I felt more confident in dealing with my position. However, I also felt that if you always did simulations with the same boss, that they would lose their effectiveness because you would know their lines of questioning and tactics.
- I felt much more confident.
- I felt 100% more prepared to enter into the negotiation. The feedback my boss gave me was sound and I was able to use the ideas he suggested during the real negotiation. I felt much more sure of myself and more prepared to face a tough negotiator.

- I was much more confident and determined.
- I felt more confident. Simulated negotiations are in many ways no different than stretching or mentally running through a game plan. Both loosen you up and add to your confidence level.
- I felt more confident. In the future, I plan to use simulations in preparing for actual negotiations. I feel that simulated negotiations are an extremely beneficial preparatory tool.
- I felt more confident and my arguments flowed. I felt like much of the power rested with me.
- I was more interested to see how the actual negotiation was going to turn out based on what happened during the simulation.
- I felt the same - very positive, willing to give and take. However, the seller became unreasonable.
- There was no change.
- I felt more confident and more determined to get a lower agreement.
- I felt more confident.
- Not that different, but the boss' debrief boosted my confidence.
- I was more determined to get my price. The simulation lent credibility to my objective.

GOVERNMENT REPRESENTATIVES

- I felt more confident, more aware of issues and of potential issues that might crop up. I was less anxious and felt more comfortable.
- I was less nervous and more amenable to reach an agreement.
- The simulated negotiation reaffirmed my position. Because of it [the simulation], I felt that the actual negotiation would be easier.

- I felt more confident and ready to draw blood. I wanted to get a better price and felt more confident that my position could be attained.
- I had the same anxiety level but I did feel more comfortable with my position and arguments. The simulation cemented my approach in my mind short of having actual data. I did feel very comfortable in this case.
- I felt I knew more about what I was going to discuss. Consequently, I felt better about my position.

INDUSTRY REPRESENTATIVES

- I felt more comfortable. I felt I could be more aggressive in the actual negotiation.
- I felt more confident.
- I felt I had all my ducks in a row and that I had support of management for my negotiation position.
- I was more relaxed and confident with my knowledge of the material.
- I was less nervous, more confident and more mentally prepared.
- I felt very positive and less defensive.
- I was very confident. I felt that we [the seller and I] should have been able to come to an agreement quickly.
- I felt more serious, more aggressive and assertive.

ANALYSIS

The responses to these questions are consistent with the type of responses that each group provided on the questionnaires. That is, the students and the industry participants had a much more positive view of the simulated

negotiation process than the Government representatives. For the students especially, the simulated negotiation appeared to serve as an additional training ground and helped make the students feel more prepared. In almost every case, this additional preparation made the students feel more confident of their positions.

In general, all of the students felt that the simulated negotiation was "helpful," "worthwhile" or was a "very valuable preparatory technique." The simulated negotiation "emphasized the relevant facts" and helped "clarify and focus" the student's position. The simulation also acted as a sounding board for the students and enabled them to "fully articulate" their arguments and to "rehearse their views out loud." It also enabled the students to "explore new angles" and to better refine their strategy and tactics.

A final point made by one of the students, unrelated to the simulation itself, was the fact that the boss' debrief at the end of the simulation was very helpful. In fact, the student noted that while the simulation was good, it would not have been as beneficial without the debrief. This same student reported that the boss' debrief "boosted" his confidence. These statements reinforce the notion that the success of the simulated negotiation process is dependent on the motivation and skill of the players involved.

The only negative comments by the students concerned the fact that the simulation scenario was "unrealistic" and that

the simulation process was "time consuming." It is clear, however, from the student responses that performing simulated negotiations is a viable and beneficial preparatory technique. Furthermore, the fact that the students are less experienced in negotiations may account for the strong advocacy of the process.

The industry group also reported very positive statements regarding the value of simulated negotiations. In some cases, the respondents reported that they either already do simulated negotiations within their organization or they do something very similar to the process. The other comments echoed the students response that the simulated negotiation was "worthwhile" and acted as a "good rehearsal." More so than the students, the industry participants noted that the simulation "reinforced" their position and the points that they wanted to make. The industry participants also claimed that the simulation provided new and creative ideas to consider and enabled them to "figure out where there were gaps" in their logic. Two comments in particular really captured what may be the greatest value of the simulated negotiation process.

I can see a lot of benefit. The simulation gives you a chance to air out your arguments. It gave me the chance to see both sides of the table.

and

With a simulation, there is not a whole lot of cost up front, but it has the potential to pay off big.

While the simulated negotiation process can not guarantee that you will get the results you want, these two comments at least identify the potential that the process holds for those who engage in this preparatory technique.

The Government representatives' responses were only "lukewarm" compared to the student and industry groups. While some of the respondents claimed that it was a "very useful tool" and that it was "helpful," others reported that the simulation was "not very real world" and that it was "artificial" and "time consuming."

Within the Government group, there appeared to be a division in the responses. Some of the participants were very enthusiastic about the simulated negotiation process, claiming that it helped them anticipate problem areas and made them feel more comfortable and confident in their position. Others, however, were much more tentative in their praise for the process and gave a much more reserved or even negative response.

For this group then, while the simulated negotiation process still provided some benefits, it appears clear that the success of the process is dependent upon the attitudes of the participants. That is, those individuals who see the simulated negotiation as an additional opportunity to prepare for negotiations will get more out of the process than those who view it as just another time consuming requirement to fulfill.

Finally, one Government representative stated that, "I strongly recommend using it, [simulated negotiations] especially for new people." This comment suggests that whereas the simulated negotiation process has merit for experienced negotiators, the greatest benefit may be derived by those with little negotiation experience. This revelation may account then for the stronger, more positive response rates provided by the students. However, it fails to explain why the industry participants, many of them experienced negotiators, had equally positive responses, similar to those provided by the students.

C. THE IMPASSE SCENARIO

This section presents the data collected from those negotiations which resulted in an impasse, i.e., those negotiations where the participants failed to reach an agreement. In total, 139 rounds of negotiations were conducted. Of these negotiations, nineteen resulted in an impasse. In the case of an impasse, both the buyer and the seller were asked to complete a questionnaire which sought to establish the reasons for the impasse. While a total of nineteen negotiations resulted in an impasse, the researcher was only able to obtain data from seven of these negotiations. An example of the impasse questionnaire is contained in Appendix C.

Table XL below provides a summary of those negotiations that failed to reach an agreement within each group.

TABLE XL
NEGOTIATIONS RESULTING IN AN IMPASSE

NEGOTIATION ROUND	TOTAL	STUDENT	GOVERNMENT	INDUSTRY
CONTROL	4	3	1	0
SIMULATION	6	4	1	1
ACTUAL	9	6	2	1
TOTAL IMPASSE	19	13	4	●
TOTAL NEGOTIATIONS	139	80	33	26
% IMPASSE	13.67%	16.25%	12.12%	7.69%

Initially, the researcher did not expect that any of the simulation rounds would result in an impasse. The assumption was that the buyer was meeting with his or her boss to engage in a simulation, ostensibly in order to better prepare for the actual negotiation with the real seller. One would think that going into the simulated negotiation then, that the adversarial condition between the buyer and the boss would be greatly diminished thus precluding an impasse. Nonetheless, six of the 52 simulations resulted in an impasse, accounting for 11.5% of the simulated negotiations. Obviously, there was no lack of motivation in these cases, on the part of the boss and the buyer, in getting what they wanted.

Of the 139 rounds of negotiations, nineteen, or 13.67% resulted in an impasse. The students had the highest incidence of an impasse at 16.25%. One possible explanation for this above average percentage may be the fact that the students, as a group, were less experienced in negotiations than their Government and industry counterparts. That is, the students may have felt that an impasse was a more acceptable outcome than reaching a less desirable agreement.

The following statements were provided as explanations by the respondents as to what they felt accounted for the impasse. For ease of comparison, the statements have been matched for each buyer-seller pair.

- **BUYER** - The seller refused to recognize the significance of the learning that had taken place over the past few years and he failed to recognize what I had calculated other producers' costs to be.

SELLER - The buyer made an initial "low ball" offer with no willingness to make reasonable counters. This put me on the offensive.

- **BUYER** - The seller from Chicago Chemical was absolutely unwilling to negotiate. While he did not deny that some learning had taken place and that the company had already amortized the set-up costs in the initial year, he believed that their price was fair based on competition.

SELLER - The buyer was unwilling to raise or offer a higher price. After all, the price I offered was competitive with the other offers they [Prestige Plastics] had received.

- **BUYER** - Seller would not negotiate.

SELLER - I was too stubborn to reach an agreement on a price decrease per drum. I felt I could make a better profit for the company.

- **BUYER** - I had an alternative action if I didn't get an offer that I thought was reasonable. To me the purpose of the negotiation was to decide whether or not to issue bids for a five year contract vice a simple one year contract.

SELLER - The buyer and I were unwilling to compromise. The buyer was not willing to consider inflationary factors, escalation in pricing, increases in labor costs, etc.

- **BUYER** - A lot of frustration developed because the boss could not substantiate his cost data. In the beginning, I should have only talked about the first year of the contract. Instead, when I made my initial offer, I came in with a low price for all five years.

SELLER - The buyer made an "unrealistic" offer and later refused to move off the "low price."

- **BUYER** - I was unable to get cost data from the seller. Also, the fact that I was able to get \$2,087,500 during the simulation with my boss made me feel that I should have been able to obtain a much lower price than what the seller was offering. I threatened to go to another supplier if they [Chicago Chemical] would not come down in price and the seller said, "Go for it."

SELLER - The buyer's offer was below the company's costs. The buyer was not willing to discuss anything other than profit.

- **BUYER** - Because the seller would not produce the requested cost data, I became unwilling to budge from my initial range. The time constraint also became a factor and I was not convinced that my minimum, maximum and target positions were in error.

SELLER - I could not get the buyer to attach any credibility to my low offer. He believed that we [Chicago Chemical] were gouging his company.

Based on these limited responses, it is difficult to draw any definitive conclusions to account for an impasse in general. However, several patterns appear to emerge in this

experiment that may serve as possible explanations for the impasse scenario.

- (1) In every case, either the buyer, the seller or both appeared to display a general unwillingness to negotiate. The participants described their opponents, or even themselves, as "too stubborn," or "unwilling to budge."
- (2) Some of the sellers appeared to be holding firm to their price based on the fact that the scenario was set up as a sealed bid. Therefore, as the low offeror, the sellers felt they did not need to negotiate a lower price. Again, this posture gave the impression that the sellers were "absolutely unwilling to negotiate."
- (3) In two of the six simulations that resulted in an impasse, the buyer appeared to have a fixation on obtaining the cost data from the boss (In reality, the boss did not have any cost data). When the boss failed or refused to produce the cost data, the buyer became frustrated or mistrustful which in turn led to the negotiations breaking down.
- (4) The buyer may have achieved a very low price during the simulated negotiation with the boss and therefore may have been predisposed to a low price. Therefore, the buyer may have felt the need to "meet or beat" the price they obtained with the boss during the simulation in order to consider the actual negotiation a success.
- (5) In several cases, the buyer's initial offer was unrealistically low. The seller, in turn, may have felt that the buyer's and seller's positions were too far apart to ever reach a reasonable agreement.

This last observation in particular, prompted the researcher to compare the buyer's and the seller's minimum, maximum, and target positions. The researcher postulated that part of the problem could be the fact that there was no

overlap between the buyer's maximum position and the seller's minimum position. In other words, going into the negotiation, neither the buyer's or seller's best price would satisfy the other.

Table XLI below compares the buyer's maximum price against the corresponding seller's minimum price. The final column indicates whether or not an overlap exists between the two prices. A dollar figure in parenthesis, for example, indicates that there is no overlap between the buyer's maximum price and the seller's minimum price. Furthermore, the larger the dollar value, the further the two prices are apart. Conversely, a large positive dollar value indicates that there exists a sizeable overlap between the buyer's maximum price and the seller's minimum price. In this case, one would imagine that there is plenty of room to negotiate a reasonable price for both the buyer and the seller.

TABLE XLI
COMPARISON OF MAXIMUM AND MINIMUM PRICES

Buyer's Maximum Price	Seller's Minimum Price	Delta between Max/Min Price
\$2,220,000	\$2,300,000	(80,000)
\$2,365,000	\$2,500,000	(135,000)
\$2,322,000	\$2,500,000	(178,000)
\$2,322,000	\$2,920,000	(598,000)
\$2,365,000	\$2,160,000	205,000
\$2,322,000	\$2,277,000	45,000
\$2,322,000	\$2,320,000	2,000

The results in Table XLI partially confirm the researcher's expectation. Four of the seven impasse negotiations had a situation in which the buyer and seller entered the negotiation with no overlap in their respective maximum and minimum positions. In one case in particular, the seller appears to have come into the negotiation with an unbelievably high minimum price, such that it is almost \$600,000 above the buyer's maximum price. In that particular case, the buyer never even got an offer on the table and the negotiation quickly broke down. Understandably, the negotiation was doomed from the beginning.

What is more difficult to understand is the case where a \$205,000 overlap exists between the buyer's maximum price and the seller's minimum price. There appears to be more than enough room for the two negotiators to arrive at a price that is satisfactory to both parties and yet, the negotiation still resulted in an impasse. At the end of this particular negotiation, the two parties were only \$15,000 apart from settling on a final price. While time may have played a factor, a breakdown in communication appears to have also played a role in the demise of this negotiation.

Finally, the following two observations are provided as an additional explanation as to why some of the negotiations in this experiment resulted in an impasse.

- (1) There was a breakdown in communication between the buyer and the seller. For example, in one negotiation observed by the researcher, it became obvious that while neither the buyer nor the seller had stated that their last quoted price was their "Best and Final Offer," (BAFO) both parties believed that it was. Subsequently, both parties assumed that there was no room left to negotiation and walked away from the table even though there was a \$45,000 overlap between the buyer's maximum position and the seller's minimum position.
- (2) There was a personality conflict between the buyer and the seller and their egos got in the way of the negotiation.

In summary then, the impasse negotiations in this experiment appear to stem from a variety of factors. These factors include, (1) a general unwillingness to negotiate, (2) unrealistically high or low initial offers, (3) a proclivity toward a particularly high or low price, (4) lack of an overlap between the buyer's maximum and the seller's minimum price, (5) a breakdown in communication, and (6) personality conflicts.

D. SUMMARY

This chapter presented and analyzed the responses the researcher received during the interviews with the experimental buyers. Several questions were asked during these interviews. Throughout the chapter, each question was presented individually and the responses were grouped according to the respondent's association, i.e., student, Government, or industry. The responses received during these

interviews were consistent with the type of responses provided on the questionnaires. Specifically, the students and the industry participants appeared to have a more positive view of the simulated negotiation process than their Government representative counterparts.

The chapter also examined several possible factors which may have caused an impasse in some of the negotiations. The next chapter will present the major conclusions and recommendations based on the research results.

VII. CONCLUSIONS AND RECOMMENDATIONS

A. INTRODUCTION

As noted at the beginning of this thesis, negotiations play a significant role in the acquisition of goods and services. Therefore, the importance of contract negotiations in providing these goods and services suggests the need to improve negotiation effectiveness. This thesis has sought to stress the importance of proper preparation for contract negotiations. One approach that has an intuitive appeal in preparing for negotiations is the use of simulated negotiations. Accordingly, this thesis examined the use of simulated negotiations and sought to determine what effect, if any, the use of this technique had on the negotiated outcome. Specifically, an experiment was designed to measure the effects of simulated negotiations employed by the buyer on negotiation effectiveness as measured by price. Additionally, questionnaires and interviews were used to obtain a subjective evaluation from the experimental buyers as to the effectiveness of simulated negotiations on the actual negotiated outcome.

This chapter presents the major conclusions and recommendations based on the research results presented in Chapters IV through VI. In addition, the chapter will provide

answers to the research questions presented in Chapter I and will make recommendations on how the design of the experiment could be improved. This chapter will conclude with suggested areas for further research.

B. CONCLUSIONS

1. Conclusion #1

In general, simulated negotiations employed by the buyer improves negotiation effectiveness as measured by price.

The results from the overall experiment indicated that the simulated negotiation was associated with a 2.5% decrease in price (better from the buyer's point of view) when simulation had been used as a preparatory technique. That is, simulated negotiations as a preparation for actual negotiations proved to be beneficial in this experiment and improved the negotiated outcome. This research focused solely on the simulated negotiation process and its effect on the buyer's performance during the actual negotiation. However, there is no evidence to suggest that the benefits derived from performing a simulated negotiation could not also be accrued by a seller.

2. Conclusion #2

The benefits of using simulated negotiations as a preparatory technique varies based on the participant's motivation and attitude and may in fact be dysfunctional.

This study focused on the effect of using simulated negotiations as a preparatory technique in relation to three different sub-groups of participants - students, Government contracting personnel, and the industry representatives. This conclusion is supported by the fact that while the student and industry participants who engaged in simulated negotiations obtained a lower price than their control group counterparts, the Government participants obtained a higher price. That is, simulated negotiations proved to be dysfunctional for the Government participants as a group.

The student group had the biggest decrease in price (4.8%) when compared to their control group counterparts. Likewise, the industry participants achieved a 3.0% reduction in price. In contrast, the Government participants had a 3.9% increase in price when compared to their control group. This result suggests that the benefits of simulation as a preparatory technique may not be universal and appear to be tied to the individual participant's motivation and attitudes toward the simulated negotiation process.

Similarly, some of the participants noted that the simulated negotiation process did have weaknesses. These weaknesses included: (1) The simulated negotiation process lacked realism and was somewhat contrived and artificial. (2) The individual playing the role of the seller in the simulation does not have the same information as the "actual seller" and therefore cannot approach the negotiation in the

same "state-of-mind." (3) The simulation will not be effective unless the person playing the seller is motivated to go through the process. (4) Erroneous assumptions made during the simulation might affect the expectations of the buyer in the actual negotiation and potentially "cloud" the buyer's judgment.

These results suggest that the success or the effectiveness of the simulated negotiation process is tied directly to the motivation and attitudes of the participants. If the participants view the process as a positive and enriching experience that will better prepare them for contract negotiations, then chances are good that the simulated negotiation process will improve their performance. If, on the other hand, the participants view the process as just another requirement to be fulfilled before the actual negotiation, then there is strong evidence to suggest that the process will be of little value and may in fact be dysfunctional.

3. Conclusion #3

Qualitatively, simulated negotiations are a valuable preparatory technique.

This conclusion is supported by the fact that a majority of the participants felt that the simulated negotiation helped improve their overall performance in the actual negotiation. Furthermore, 96% of the participants

agreed that the simulation had indeed helped them to negotiate more effectively in the actual negotiation. This overwhelming majority lends credibility to the simulated negotiation process as an effective preparatory technique for contract negotiations.

Furthermore, the results from the questionnaires indicate that a majority of the participants agreed with the following statements concerning the value of simulated negotiations. Simulated negotiations helped the participants:

- evaluate their negotiation strategy and tactics
- focus on the real issues
- solidify their arguments
- identify new issues not previously considered
- improve their line of inquiry
- anticipate questions
- identify the seller's position

In addition, a strong majority of the participants indicated that they would like to conduct more simulations in preparation for future contract negotiations.

Beyond these positive statements concerning the value of simulated negotiations, a majority of the participants indicated that they felt "MORE" on the following adjectival qualities: Confident, Relaxed, Focused, Prepared, Motivated, Creative, and Knowledgeable. In addition, a majority of the participants also indicated that they felt "LESS" Frustrated.

In general, a majority of the participants felt that the simulation was a "worthwhile" exercise and was a "very valuable preparatory technique." The simulation allowed the participants to "fully articulate" their arguments and to "rehearse" before the actual negotiation. The simulated negotiation also "emphasized the relevant facts" and helped "clarify and focus" the participants' position. It also enabled the participants to try out different strategies and tactics in a risk free environment. Because the participants had nothing to lose during the simulation, they could experiment with new ideas that they would not otherwise try to determine the effectiveness of these new strategies and tactics. Finally, the observation was made by one participant that with a simulation, there is not a whole lot of cost up front, but it has the potential to pay off big [in relation to obtaining a more favorable price and better contract terms].

C. RECOMMENDATIONS

1. Recommendation #1

Simulated Negotiations should be integrated more into graduate and undergraduate level courses that deal with the contract negotiation process. Furthermore, the simulated negotiation process should be incorporated into the professional training of Government and industry contracting personnel.

The benefits of the simulated negotiation process have been enumerated throughout this thesis. For the students, especially, the simulated negotiation served as an additional training ground and helped make the students feel more prepared. In almost every case, this additional preparation made the students feel more confident of their positions. This improved confidence can translate into improved performance in the actual negotiation. Therefore, this kind of instruction into the curriculum of these contracting students could have a significant impact on the future development and professionalism of tomorrow's contracting personnel by providing them greater insight into the negotiation process.

Likewise, the simulated negotiation appears to be very helpful for the junior negotiators of Government and Industry, (those with less than two years negotiation experience) in preparing them for actual negotiations. As previously noted, the negotiator is critically important to an organization. In no other procedure does so much money change hands based on the ability of single individuals as it does in negotiation. In Government contracting, particularly, a negotiator can make or break the company. He is the most important profit center the company has. Therefore, he should be chosen, trained, and treated accordingly.

As demonstrated in this thesis, if the simulated negotiation process is an effective technique in preparing for

actual negotiations, then it makes good business sense to incorporate this process into the training and preparation of Government and industry negotiators in order to improve the negotiated outcomes. For example, on a one million dollar contract, if through the process of simulated negotiation, a negotiator is able to obtain a price reduction of as little as one percent, then the negotiator will have saved the organization \$10,000. This, of course, is a conservative estimate. Based on the results of this thesis, the average reduction in price was 2.5%, and in some cases as much as almost five percent. For the one million dollar contract example then, the use of the simulated negotiation process could translate into as much as a \$50,000 reduction in price.

The point is clear that the simulated negotiation process has the potential to save organizations millions of dollars on their contracts. Furthermore, the simulated negotiation process is not just limited to the price of the contract. The improvements achieved through the process could just as well extend to the other terms and conditions of the contract. Nor are the benefits of the simulated negotiation process limited to buying organizations. Conceivably, these same benefits could be equally accrued by selling organizations as well. Finally, the simulated negotiation has the additional benefit of upper management becoming aware of the buying team's objectives and tactics.

However, the simulated negotiation process is not without its critics. One executive stated,

I personally don't like mock or simulated negotiations because I believe they dilute the negotiation process. Negotiations are a dynamic, evolving process that depend on the players and the conditions of the negotiation. Doing a simulation would take the edge off of my performance in the actual negotiation. I have an idiosyncrasy against using them. [Ref. 43]

This quote reinforces the point that simulated negotiations are not for everyone and that depending on the participant's motivation and attitude, the simulation can be dysfunctional. Therefore, caution and consideration of the individual's background, experience, and attitudes must be exercised when deciding whether or not an individual should engage in a simulated negotiation.

2. Recommendation #2

The simulated negotiation process should be constructed in order to minimize the amount of required resources and at the same time maximize the effectiveness of the process.

This recommendation could be applied to almost any process. Yet it is important to recognize and to drive the point home that the simulated negotiation process is not without associated costs and drawbacks. As previously noted, for example, engaging in a simulated negotiation is a time consuming process. Therefore, there exists a tradeoff between the amount of time and the costs associated with performing a

simulation and the amount of benefits that will be derived from the process in the form of improved negotiated outcomes. And again, it must be emphasized that the simulated negotiation process is no guarantee that an individual or a team of negotiators will achieve their desired outcomes. The process appears to be a function of an individual's motivation and attitude towards the process and therefore, it must be used judiciously and with discretion.

3. Recommendation #3

The simulated negotiation process should be implemented for those contracts that involve (a) a large dollar value, e.g., those that require greater than 10% of an organization's operating budget, (b) a first time purchase where there are a number of unknowns and the risks are high, and (c) a number of complicated issues and tradeoffs to be considered.

One of the key precepts of this thesis has been that the team that prepares the best generally comes out more favorably. It has been said that at least 90 percent of success in negotiations is due to thorough preparation. This thesis has demonstrated the value of the simulated negotiation process as a preparatory technique. Given, however, the associated costs and drawbacks of doing a simulated negotiation, it is appropriate to only recommend that it be used in those situations where it appears warranted,

(contracts with a high dollar value, major or important contracts that will have long term ramifications for the organization, and complicated contracts with difficult issues that involve tradeoffs) and with people who are sufficiently motivated and inclined to make the process work. Obviously, a simulation is not necessary for the purchase of \$100 worth of office supplies. However, a strong case is made for the use of a simulated negotiation in preparation for the purchase of a multi-million dollar weapon system.

In summary, the decision to use simulated negotiations as a preparatory technique depends on the value and relative importance of the contract. One executive stated during his interview that simulated negotiations were only used for very large contracts that affected such things as a critical technology or were critical to the success of a product line. [Ref. 44] Obviously there is a much more significant investment in terms of time and money when conducting simulated negotiations as opposed to merely reviewing a company's proposal. One must weigh the expected benefits to be received from conducting simulated negotiations against the costs associated with the process.

D. ANSWERS TO RESEARCH QUESTIONS

1. Subsidiary Research Question #1

What is a simulated negotiation and to what extent has this technique been used?

A simulated negotiation is a preparatory technique where negotiators within an organization play the different buyer and seller roles against one another and actually go through a "mock" negotiation from start to finish. Simulated negotiations have long been used in preparing for labor contract negotiations. The process of simulation also is used in preparation for court room trials. Additionally, it was found by the researcher that a number of commercial organizations use this approach in preparing for contract negotiations. The decision to use simulated negotiation as a preparatory technique, however, was dependent on the value and relative importance of the contract.

2. Subsidiary Research Question #2

What is the underlying rationale for using the simulated negotiation technique?

The simulation technique is valuable in the preparation for negotiations because it allows the players to act out the entire negotiation before it takes place. The process helps the negotiators see what lies before them in the coming negotiation and presents it much more vividly than if they merely talked about it. This method also gives the negotiators a chance to try something without the risk of failure. Simulated negotiations permit the negotiator to bring into focus any important elements that may have been overlooked or ignored in their original assessment of a

proposal. Furthermore, the technique facilitates making corrections in their preparation because it allows the negotiator to put themselves across the table and see the other person's point of view before the negotiation.

3. Subsidiary Research Question #3

What are the key factors that can be identified as an integral part of the simulated negotiation technique?

The key factors of the simulated negotiation technique include:

- (1) The ability to try out different ideas, strategies and tactics in a risk free environment. The simulated negotiation technique allows the participants to evaluate the relative merits and drawbacks of a particular approach as well as enabling them to learn from their mistakes.
- (2) The ability to anticipate problem areas and to formulate counter arguments. The simulated negotiation technique may reveal potential seller arguments or points of difficulty that might arise during the actual negotiation.
- (3) The ability to focus in on issues not previously considered and to emphasize the relevant facts.
- (4) The ability to express and articulate ideas aloud and to practice what needs to be said during the actual negotiation.
- (5) The ability to provide additional preparation and to enhance the participant's knowledge of the facts and how to effectively deal with the facts during the negotiation.
- (6) The ability to solidify arguments and to clarify the objectives and the points that need to be made during the actual negotiation.

4. Subsidiary Research Question #4

How effective is the use of the simulated negotiation technique in preparing for actual negotiations?

The results from the overall experiment indicated that the simulated negotiation was associated with a 2.5% decrease in price (better from the buyer's point of view) when simulation had been used as a preparatory technique for negotiations. That is, simulated negotiations as a preparation for actual negotiations proved to be beneficial in this experiment and improved the negotiated outcome. In addition, as delineated in conclusion #3 above, the simulated negotiation was qualitatively an effective preparatory technique in preparing for actual negotiations.

5. Subsidiary Research Question #5

If an impasse occurs, what are the principal reasons for such impasse?

Based on the limited responses the researcher received in this experiment, it is difficult to draw any definitive conclusion to account for an impasse in general. However, several patterns or factors did emerge in this experiment that may serve as possible explanations for the impasse scenario. These factors include:

- (1) A general unwillingness to negotiate.
- (2) Unrealistically high or low initial offers.

- (3) A predisposition towards a particularly high or low price.
- (4) Lack of an overlap between the buyer's maximum and the seller's minimum price.
- (5) A breakdown in communication.
- (6) Personality conflicts.

E. RECOMMENDATIONS TO IMPROVE EXPERIMENTAL DESIGN

Although the experimental design used in this research study proved to be satisfactory, it was not without its deficiencies. The following are recommendations to improve the experimental design for future research studies in this area.

- (1) Develop and use a case that is more complex or one that involves more trade-off factors. The reason for the added complexity would be to measure several negotiated aspects instead of just price alone.
- (2) Develop and fine tune the case "A Problem of Price" more, specifically giving both the buyer and the seller more information to work with in their respective cases. This recommendation could be combined with number one above.
- (3) Obtain basic demographic data on the participants to look for correlations with the research results.
- (4) Conduct the experiment on the researcher's home turf where the variables impacting the negotiation experiment can be better controlled.
- (5) At the end of the negotiations, have the participants share their cases with each other.

DISCUSSION

In the case "A Problem of Price," the participants were asked to concentrate on negotiating only the price. By asking the participants to also negotiate such things as contract type, delivery schedule, point of delivery, variations in quantity, etc., it would allow the researcher to measure the effect of the simulated negotiation on factors other than just price alone. The fact that the participants are negotiating a variety of terms of the contract would also add to the realism of the case. Few contract negotiations are based solely on price.

However, this added complexity to the case and the negotiations has one major drawback - it will significantly add to the amount of time that the participants would need to prepare for the simulated and actual negotiations. Furthermore, the amount of time for the negotiations themselves would need to be extended in order to accommodate the additional factors to be negotiated. The "A Problem of Price" Case used in this experiment was short, direct, and reasonably simplistic. Even though the case did not take much time to prepare, the researcher encountered considerable resistance from some organizations concerning the amount of time the experiment consumed to prepare and conduct the negotiations. This increase in the amount of time then, would act as a significant inhibitor in finding participants willing to participate in future studies. There exists a tradeoff

then, between the complexity and realism of the case and the amount of time the experiment will take to conduct. Conceivably, the greater the time requirement, the less willing negotiators will be to participate in the experiment.

One of the deficiencies noted during the debrief with the experimental buyers was a general lack of information. Possible facts that could be included as an appendix to the case are tables, figures, and data on the companies and the industry in general that would allow the participants to draw their own conclusions. For example, the buyer could be given financial statements of Chicago Chemical which shows that it is doing really well in comparison to industry averages.

With regard to the demographic data, it should include such factors as age, educational attainment, organizational position, professional background and experience level. With the demographic information, the researcher would be able to look for positive or negative correlations between the demographic data and the research results. For example, the finding that participants with less than two years negotiation experience correlated very highly with a preference for using the simulated negotiation as a preparatory technique could be examined. A study that incorporated this kind of correlation would be able to better show when and with whom simulated negotiations are appropriate as a preparatory technique.

Having all of the negotiations conducted at a central location offers several advantages. First, a central location

would provide a level playing field for the participants. Second, it would give the researcher better control of the actual running of the experiment. Again, this recommendation involves a tradeoff. On the one hand, the researcher gains the advantages associated with working in a familiar environment that can be better controlled. However, on the other hand, participants would probably be less willing to travel to a remote location to conduct the experiment, making it more difficult to attract participants.

Finally, with regard to the sharing of information at the end of the experiment, the participants should be aware of this requirement in advance of the negotiation. The rationale for this sharing of information is to reduce the likelihood of the participants making up false information to be used to their advantage during the negotiation. In this way, the participants can call "foul" if one or both of the participants really lead the other party astray, possibly rendering the negotiations null and void. This sharing of the information at the end of the negotiation will act as a control mechanism.

F. SUGGESTIONS FOR FURTHER RESEARCH

In light of the results of this thesis and the comments above, the following are provided as suggested areas of further research:

- (1) To determine through a comparison which, if any, method of preparation for negotiation is most effective. Included in this research might be a comparison of pre-negotiation clearance, approval by higher authority, "murder-boarding," tiger team approach, and simulated negotiations.
- (2) Perform a cost-benefit analysis and comparison of different preparatory techniques and determine which is most effective from a cost-benefit stand point.
- (3) Conduct further research on the reasons for the breakdown in negotiations resulting in an impasse. This research would need to be done in conjunction with other research being conducted on the negotiation process. Because an impasse can not be planned or even anticipated, the research would involve the video taping of negotiations and the building and maintenance of a data base of those negotiations that result in an impasse. After a sufficient number of impasse negotiations have been recorded, the negotiations can be reviewed and examined to determine the reasons leading to the impasse.

APPENDIX A

A PROBLEM OF PRICE

ROLE FOR THE CONTROL BUYER (B_1)

You sat at your desk reflecting on a pricing problem. You are a graduate of State University, where you majored in materials management. Since joining the small manufacturing firm of Prestige Plastics in Des Moines, you have been promoted from assistant buyer to buyer. You are responsible for purchasing the chemicals used in producing the firm's plastic products.

You are really perplexed by a particular procurement involving the purchase of X-pane, a chemical that was formulated specifically for Prestige Plastics. Thirty-one days ago, you forwarded a request for bids to six potential suppliers for Prestige's estimated annual requirement of 10,000 drums of X-pane. Yesterday morning, you opened the five bids that had been received. The bids, F.O.B. Des Moines, were as follows:

	Price per drum (\$)	Total Price (\$) (for estimated requirement of 10,000 drums)
Greater Sandusky Chemical	312	3,120,000
Chicago Chemical Co.	297	2,970,000
Tri-Cities Chemical	323	3,230,000
St. Louis Industries	332	3,320,000
St. Paul Plastics	340	3,400,000

The Chicago Chemical Company was low bidder for the fifth straight year. On the face of it, a decision to award the annual requirements contract to Chicago Chemical looked obvious. The day after the bid opening, the sales engineer from Greater Sandusky Chemical threw you a ringer. He said that no one would ever be able to beat Chicago Chemical's price. His firm estimated that setup costs associated with producing X-pane would be approximately \$750,000. He went on to say that due to the uncertainties of follow-on orders, his

firm would have to amortize this cost over the one-year period of the contract to preclude a loss.

You checked with the other unsuccessful bidders. They said substantially the same thing: \$700,000 to \$850,000 in setup costs were included in their prices.

Next, you looked at the history of past purchases of X-pane. You saw that on the initial procurement five years ago, Chicago Chemical's bid was \$202 per drum, \$3.00 lower than the second lowest price. Since that time, bid prices had increased, reflecting cost growth in the materials required to produce X-pane. Each year, Chicago Chemical's prices were \$3 to \$15 lower than those of the unsuccessful competitors.

You knew from your purchasing course at State University that, under most conditions, competitive bidding normally resulted in the lowest price. You also knew that it was important to maintain the integrity of the competitive bidding process. But you felt a strong sense of uneasiness. Something did not seem right.

As a first step, you decided to estimate Chicago's costs and profits. You did this by estimating the second low bidder's costs. Based on your experience in the chemical industry and on available industry data, you estimated Greater Sandusky's profit objective as a 10% mark up on cost:

$$\begin{aligned}\text{Cost} + 10\% \text{ Cost} &= \text{Selling Price} \\ 1.1 \text{ Cost} &= \$3,120,000 \\ \text{Cost} &= \$2,835,000\end{aligned}$$

Sandusky's costs include both setup (estimated at \$750,000) and "all other costs" (materials, labor, overhead, etc.) Thus, Sandusky's "all-other-costs" are approximately \$2,085,000 (\$2,835,000 - 750,000) for the coming 12 month period. You then considered how Chicago's "all-other-costs" would compare with Greater Sandusky's. You felt that Chicago should have experienced learning both in the purchase of its raw materials and in its production operations. Accordingly, you feel that Chicago's costs would be approximately \$1,950,000 for the coming year's 10,000 drums.

Next, you estimated what a fair and reasonable profit margin should be for Chicago. Since the supplier had five years experience with the production of X-pane, and therefore little or no risk was involved, you feel that the profit objective should be approximately 8%, or roughly \$156,000.

Thus, you concluded, a fair and reasonable price (based on your cost analysis) would be approximately \$2,106,000 if

Chicago were to be the supplier. You then studied your options were Chicago unwilling to agree to what you believed to be a fair and reasonable price. You checked with the Directors of Marketing and Research and Development at Prestige Plastics. Both individuals felt that there will be continuing requirements for approximately 10,000 barrels of X-pane per year for 5 more years.

Accordingly, you set about estimating the cost to Prestige Plastics of purchasing the required X-pane under a five year contract. In order not to pay the estimated \$750,000 of setup costs in the first year, your request for bids and the resulting contract would direct potential suppliers to amortize the setup costs over the life of the contract. If Prestige did not purchase a minimum of 50,000 barrels of X-pane over the five years, it would reimburse the supplier for any unamortized setup expenses.

In addition, in order to avoid over paying the supplier should Prestige's requirements exceed 50,000 barrels (the point at which setup costs would be amortized) you plan to request a unit price for drums in excess of 50,000. You would, of course, include an economic price adjustment provision to protect both the supplier and Prestige from the effects of significant changes in the cost of the oil and chemicals required to produce X-pane.

Next, you estimated a potential new supplier's annual costs and profits as follows:

	New Producer's Annual costs for 10,000 barrels
Setup Costs ($1/5 \times \$750,000$)	\$ 150,000
All other costs (assuming reasonable learning	<u>2,000,000</u>
Total estimated annual costs	\$2,150,000
Profit (8%)	<u>172,000</u>
Total annual price	<u><u>\$2,322,000</u></u>

Having developed a target price for 10,000 drums from Chicago Chemical (\$2,106,000) and your best alternative to a negotiated agreement (BATNA) (2,322,000), you have contacted Sam Burhop, the Director of Marketing at Chicago, to set up a meeting to negotiate a five year contract of X-pane. You requested Mr. Burhop to bring relevant cost data with him and to meet with you in your office at 9 a.m. Monday.

It is 9 a.m. Monday morning, time to meet with Mr. Burhop to conduct the negotiation.

APPENDIX A

A PROBLEM OF PRICE

ROLE FOR THE EXPERIMENTAL BUYER (B₂)

You sat at your desk reflecting on a pricing problem. You are a graduate of State University, where you majored in materials management. Since joining the small manufacturing firm of Prestige Plastics in Des Moines, you have been promoted from assistant buyer to buyer. You are responsible for purchasing the chemicals used in producing the firm's plastic products.

You are really perplexed by a particular procurement involving the purchase of X-pane, a chemical that was formulated specifically for Prestige Plastics. Thirty-one days ago, you forwarded a request for bids to six potential suppliers for Prestige's estimated annual requirement of 10,000 drums of X-pane. Yesterday morning, you opened the five bids that had been received. The bids, F.O.B. Des Moines, were as follows:

	Price per drum (\$)	Total Price (\$) (for estimated requirement of 10,000 drums)
Greater Sandusky Chemical	312	3,120,000
Chicago Chemical Co.	297	2,970,000
Tri-Cities Chemical	323	3,230,000
St. Louis Industries	332	3,320,000
St. Paul Plastics	340	3,400,000

The Chicago Chemical Company was low bidder for the fifth straight year. On the face of it, a decision to award the annual requirements contract to Chicago Chemical looked obvious. The day after the bid opening, the sales engineer from Greater Sandusky Chemical threw you a ringer. He said that no one would ever be able to beat Chicago Chemical's price. His firm estimated that setup costs associated with producing X-pane would be approximately \$750,000. He went on to say that due to the uncertainties of follow-on orders, his firm would have to amortize this cost over the one-year period of the contract to preclude a loss.

You checked with the other unsuccessful bidders. They said substantially the same thing: \$700,000 to \$850,000 in setup costs were included in their prices.

Next, you looked at the history of past purchases of X-pane. You saw that on the initial procurement five years ago, Chicago Chemical's bid was \$202 per drum, \$3.00 lower than the second lowest price. Since that time, bid prices had increased, reflecting cost growth in the materials required to produce X-pane. Each year, Chicago Chemical's prices were \$3 to \$15 lower than those of the unsuccessful competitors.

You knew from your purchasing course at State University that, under most conditions, competitive bidding normally resulted in the lowest price. You also knew that it was important to maintain the integrity of the competitive bidding process. But you felt a strong sense of uneasiness. Something did not seem right.

As a first step, you decided to estimate Chicago's costs and profits. You did this by estimating the second low bidder's costs. Based on your experience in the chemical industry and on available industry data, you estimated Greater Sandusky's profit objective as a 10% mark up on cost:

$$\begin{aligned}\text{Cost} + 10\% \text{ Cost} &= \text{Selling Price} \\ 1.1 \text{ Cost} &= \$3,120,000 \\ \text{Cost} &= \$2,835,000\end{aligned}$$

Sandusky's costs include both setup (estimated at \$750,000) and "all other costs" (materials, labor, overhead, etc.) Thus, Sandusky's "all-other-costs" are approximately \$2,085,000 (\$2,835,000 - 750,000) for the coming 12 month period. You then considered how Chicago's "all-other-costs" would compare with Greater Sandusky's. You felt that Chicago should have experienced learning both in the purchase of its raw materials and in its production operations. Accordingly, you feel that Chicago's costs would be approximately \$1,950,000 for the coming year's 10,000 drums.

Next, you estimated what a fair and reasonable profit margin should be for Chicago. Since the supplier had five years experience with the production of X-pane, and therefore little or no risk was involved, you feel that the profit objective should be approximately 8%, or roughly \$156,000.

Thus, you concluded, a fair and reasonable price (based on your cost analysis) would be approximately \$2,106,000 if Chicago were to be the supplier. You then studied your options were Chicago unwilling to agree to what you believed to be a fair and reasonable price. You checked with the

Directors of Marketing and Research and Development at Prestige Plastics. Both individuals felt that there will be continuing requirements for approximately 10,000 barrels of X-pane per year for 5 more years.

Accordingly, you set about estimating the cost to Prestige Plastics of purchasing the required X-pane under a five year contract. In order not to pay the estimated \$750,000 of setup costs in the first year, your request for bids and the resulting contract would direct potential suppliers to amortize the setup costs over the life of the contract. If Prestige did not purchase a minimum of 50,000 barrels of X-pane over the five years, it would reimburse the supplier for any unamortized setup expenses.

In addition, in order to avoid over paying the supplier should Prestige's requirements exceed 50,000 barrels (the point at which setup costs would be amortized) you plan to request a unit price for drums in excess of 50,000. You would, of course, include an economic price adjustment provision to protect both the supplier and Prestige from the effects of significant changes in the cost of the oil and chemicals required to produce X-pane.

Next, you estimated a potential new supplier's annual costs and profits as follows:

	New Producer's Annual costs for 10,000 barrels
Setup Costs ($1/5 \times \$750,000$)	\$ 150,000
All other costs (assuming reasonable learning	<u>2,000,000</u>
Total estimated annual costs	\$2,150,000
Profit (8%)	<u>172,000</u>
Total annual price	<u><u>\$2,322,000</u></u>

Having developed a target price for 10,000 drums from Chicago Chemical (\$2,106,000) and your best alternative to a negotiated agreement (BATNA) (2,322,000), you have contacted Sam Burhop, the Director of Marketing at Chicago, to set up a meeting to negotiate a five year contract of X-pane. You requested Mr. Burhop to bring relevant cost data with him and to meet with you in your office at 9 a.m. Monday.

In final preparation for your meeting with Chicago Chemical, you provided a copy of your analysis to your boss. You both then discussed your tactics and strategy. Your boss

was well impressed, In fact, your boss said "Boy, did I hire a winner!"

Near the end of the discussion, your boss requested you to prepare for the actual negotiation with Chicago by participating in a mock or simulated negotiation with your boss playing the role of Sam Burhop, V.P. Marketing at Chicago. Your boss has been with Prestige Plastics for 12 years now and is very familiar with not only Prestige's operation but also the industry in general. Your boss should prove to be a worthy opponent in preparing for your negotiation with Chicago.

It's early morning on the Friday prior to your scheduled negotiation with Mr. Burhop. It's time to meet with your boss for the simulated negotiation. At the end of the simulation, your boss will give you some **feedback** on your strengths and weaknesses.

It is 9 a.m. Monday morning, time to meet with Mr. Burhop to conduct the negotiation.

APPENDIX A

A PROBLEM OF PRICE

ROLE FOR THE BOSS (B_3)

You are the Director of Material at Prestige Plastics, a small manufacturer of plastics located in Des Moines, Iowa. Yesterday your buyer for chemical purchases met with you to discuss a pricing problem. He discussed events leading up to his plan to negotiate a significant reduction in the price paid for X-pane, a chemical formulated specifically for Prestige Plastics.

Briefly, he reviewed the history of X-pane purchases. Five years ago, his predecessor developed a request for bids for an estimated 10,000 drums of X-pane. Chicago Chemical's bid was \$202 per drum. It was \$3.00 lower than the second lowest price. Since that time, bid prices had increased each year, reflecting cost growth in the materials required to produce X-pane. For each of the past four years, Chicago Chemical's prices were \$3 to \$15 lower than those of the unsuccessful competitors. Accordingly, Chicago received the contract each year. They've been a great supplier!

A couple of days ago, your buyer opened the bids for this year's requirements for X-pane. The bids, F.O.B. Des Moines, were as follows:

	Price per drum (\$)	Total Price (\$) (for estimated requirement of 10,000 drums)
Greater Sandusky Chemical	312	3,120,000
Chicago Chemical Co.	297	2,970,000
Tri-Cities Chemical	323	3,230,000
St. Louis Industries	332	3,320,000
St. Paul Plastics	340	3,400,000

The Chicago Chemical Company was low bidder for the fifth straight year. On the face of it, a decision to award the annual requirements contract to Chicago Chemical looked obvious. The day after the bid opening, the sales engineer from Greater Sandusky Chemical threw your buyer a ringer. He

said that no one would ever be able to beat Chicago Chemical's price. His firm estimated that setup costs associated with producing X-pane would be approximately \$750,000. He went on to say that due to the uncertainties of follow-on orders, his firm would have to amortize this cost over the one-year period of the contract to preclude a loss.

Your buyer checked with the other unsuccessful bidders. They said substantially the same thing: \$700,000 to \$850,000 in setup costs were included in their prices.

Your buyer then decided to estimate Chicago's costs and profits. He did this by estimating the second low bidder's costs. Based on his experience in the chemical industry and on available industry data, he estimated Greater Sandusky's profit objective as a 10% mark up on cost:

$$\begin{aligned}\text{Cost} + 10\% \text{ Cost} &= \text{Selling Price} \\ 1.1 \text{ Cost} &= \$3,120,000 \\ \text{Cost} &= \$2,835,000\end{aligned}$$

Sandusky's costs include both setup (estimated at \$750,000) and "all other costs" (materials, labor, overhead, etc.) Thus, Sandusky's "all-other-costs" are approximately \$2,085,000 (\$2,835,000 - 750,000) for the coming 12 month period. You then considered how Chicago's "all-other-costs" would compare with Greater Sandusky's. You felt that Chicago should have experienced learning both in the purchase of its raw materials and in its production operations. Accordingly, you feel that Chicago's costs would be approximately \$1,950,000 for the coming year's 10,000 drums.

Next, your buyer estimated what a fair and reasonable profit margin should be for Chicago. Since the supplier had five years experience with the production of X-pane, and therefore little or no risk was involved, he felt that the profit objective should be approximately 8%, or roughly \$156,000.

Thus, he concluded, a fair and reasonable price (based on cost analysis) would be approximately \$2,106,000 if Chicago were to be the supplier. He then studied the options were Chicago unwilling to agree to what you believed to be a fair and reasonable price. He checked with the Directors of Marketing and Research and Development at Prestige Plastics. Both individuals felt that there will be continuing requirements for approximately 10,000 barrels of X-pane per year for 5 more years.

Accordingly, your buyer set about estimating the cost to Prestige Plastics of purchasing the required X-pane under a

five year contract. In order not to pay the estimated \$750,000 of setup costs in the first year, the request for bids and the resulting contract would direct potential suppliers to amortize the setup costs over the life of the contract. If Prestige did not purchase a minimum of 50,000 barrels of X-pane over the five years, it would reimburse the supplier for any unamortized setup expenses.

In addition, in order to avoid over paying the supplier should Prestige's requirements exceed 50,000 barrels (the point at which setup costs would be amortized) he planned to request a unit price for drums in excess of 50,000. He would, of course, include an economic price adjustment provision to protect both the supplier and Prestige from the effects of significant changes in the cost of the oil and chemicals required to produce X-pane.

Next, your buyer estimated a potential new supplier's annual costs and profits as follows:

	New Producer's Annual costs for 10,000 barrels
Setup Costs ($1/5 \times \$750,000$)	\$ 150,000
All other costs (assuming reasonable learning	<u>2,000,000</u>
Total estimated annual costs	\$2,150,000
Profit (8%)	<u>172,000</u>
Total annual price	<u><u>\$2,322,000</u></u>

Having developed a target price for 10,000 drums from Chicago Chemical (\$2,106,000) and your best alternative to a negotiated agreement (BATNA) (2,322,000), he contacted Sam Burhop, the Director of Marketing at Chicago, to set up a meeting to negotiate a five year contract of X-pane. He requested Mr. Burhop to bring relevant cost data and to meet with him in his office at 9 a.m. Monday.

In preparation for the negotiation with Chicago Chemical, your buyer provided you a copy of his analysis. You both then discussed tactics and strategy. You were well impressed. In fact, you said "Boy, did I hire a winner!" Your buyer is a graduate of State University, where he majored in materials management. Since you hired him 5 years ago as an assistant buyer, he developed rapidly and you promoted him to buyer.

You felt as if your buyer had really stumbled onto something and that the negotiation with Chicago Chemical was going to be an important one. Near the end of the discussion, you requested your buyer to prepare for the actual negotiation with Chicago by participating in a simulated negotiation with

you playing the role of Sam Burhop, V.P. Marketing at Chicago. Although you have not dealt with Sam Burhop directly, you know he has a reputation for being a slick, smooth talking negotiator. You also know that compared to Chicago's other customers that Prestige is probably not considered to be a major account. Still, Prestige does add something to their bottom line.

You decide to sharpen your pencil and get ready for the simulated negotiation. You want to make sure that your buyer covers all the bases during the simulation and is ready to go up against Sam Burhop on Monday morning.

It is now 9 a.m. Friday morning, time to meet with your buyer to conduct the simulated negotiation. At the conclusion of the negotiation, be sure to give your buyer feedback. The feedback should include a discussion of not only the buyer's strengths and weaknesses, but also a discussion of how well their strategy and tactics worked. Be sure to record the final negotiated price!

APPENDIX A

A PROBLEM OF PRICE

ROLE FOR SAM BURHOP, V.P. MARKETING, CHICAGO CHEMICAL

Yesterday, you received a telephone call from the buyer at Prestige Plastics of Des Moines, Iowa. Prestige is far from being your largest account but it is your most profitable one! He said that he would like to meet with you in his office next Monday to negotiate a five year contract for X-pane, a chemical formulated specifically for Prestige Plastics. He also requested that you bring your cost data for the production of X-pane. My gosh, you thought, has Prestige finally realized how much money they're leaving on the table?

You have pulled the Prestige file to refresh your memory. Five years ago, Prestige issued a request for bids for 10,000 drums of X-pane. Your proposal five years ago was \$202 per drum. This was based on the following estimated costs:

Cost per drum		Total for 10,000 drums
set up		\$ 500,000
variable costs	\$80.00	800,000
overhead	53.60	<u>\$ 536,000</u>
		\$1,836,000
profit		<u>183,600</u>
		<u><u>\$2,019,600</u></u>

rounded to \$202 per drum

Your bid was accepted and a most rewarding relationship began. Your cost estimates proved to be quite accurate and your profit was \$185,000 during the first year.

Much to your surprise, you received a second request for bids a year later. Same product, same quantity, same duration...one year. This time, you decided to employ a different approach to developing your bid. You knew that your competitors would have to absorb their set-up costs over the 10,000 drums which were to be purchased. Accordingly, you estimated what your competitor's costs would be and then submitted a bid which was approximately \$10 per drum below what you felt the low bid would be. Again, your bid was low and you received the contract. And you picked up a windfall profit of \$700,000!

Years 3 and 4 were a repeat. Boy oh boy, what a cash cow! And year 5 was right on target until Prestige's phone call yesterday.

In preparation for your meeting with the buyer, you reviewed your cost for this year's 10,000 drums. They total \$1,970,000 (60% variable, 40% fixed). Based on a competitive analysis, you believed that a bid of \$2,970,000 would beat the competition and give you another year of incredible profits. The bid opening was two days ago. You had assumed that the call yesterday was to tell you of award of the contract. The comment about a five year contract seemed too good to be true! But the request for cost data????

You decide to sharpen your pencil and prepare for the negotiation. Although Prestige is not your largest account, it is by far your most profitable one. Losing Prestige would be a major black mark on your record as a seller. Next month is your review for promotion, so you want to be sure your record is clean and in top shape. This is not time to get greedy and possibly lose the account.

It's Monday morning, and you're in the lobby of Prestige Product's purchasing department, waiting to see the buyer.

APPENDIX B

GOVERNMENT AND INDUSTRY PARTICIPANTS

Defense Contract Administration Services Management Area
1250 Bayhill Drive
San Bruno, CA 94066

ESL, Inc.
495 Java Drive
Sunnyvale, CA 94088

FMC
Box 58123
Santa Clara, CA 95052

FT. Ord
Contract Division
P.O. Box 27
FT. Ord, CA 93941

Naval Weapons Center
Code 2502
China Lake, CA 93555

Naval Supply Center
Regional Contracting Department
Oakland, CA 94625

Teledyne, CME
20860 Be La Cruz Blvd
Santa Clara, CA 95052

Westinghouse, Marine Division
401 East Hendy
Sunnyvale, CA 94088

APPENDIX C

POST SIMULATION NEGOTIATION QUESTIONNAIRE

NAME _____ Simulated Negotiation Price _____

Please respond to the following statements:

- | | Strongly
Agree
5 | 4 | No
Opinion
3 | 2 | Strongly
Disagree
1 |
|--|------------------------|---|--------------------|---|---------------------------|
| 1. The simulated negotiation helped me to evaluate the strengths and weaknesses of my negotiation strategy. | 5 | 4 | 3 | 2 | 1 |
| 2. The simulated negotiation enabled me to evaluate the effectiveness of specific tactics. | 5 | 4 | 3 | 2 | 1 |
| 3. The simulated negotiation helped me focus on what were the real issues. | 5 | 4 | 3 | 2 | 1 |
| 4. The simulated negotiation helped me solidify my arguments. | 5 | 4 | 3 | 2 | 1 |
| 5. The simulated negotiation helped me identify issues that I had not previously identified. | 5 | 4 | 3 | 2 | 1 |
| 6. The simulated negotiation helped me formulate an improved line of inquiry. | 5 | 4 | 3 | 2 | 1 |
| 7. Based on the simulated negotiation, I intend to change my strategy and tactics going into the "actual" negotiation. | 5 | 4 | 3 | 2 | 1 |
| 8. Based on the simulated negotiation, I intend to change my minimum, maximum and objective targets. | 5 | 4 | 3 | 2 | 1 |
| 9. The simulated negotiation was an extremely valuable preparatory technique. | 5 | 4 | 3 | 2 | 1 |

POST NEGOTIATION QUESTIONNAIRE

NAME _____ Actual Negotiation Price \$ _____
 If deadlock, your last offer \$ _____

Please respond to the following statements and questions:

- | | Strongly
Agree | | No
Opinion | | Strongly
Disagree |
|---|-------------------|---|---------------|---|----------------------|
| | 5 | 4 | 3 | 2 | 1 |
| 1. The simulated negotiation helped me to evaluate the strengths and weaknesses of my negotiation strategy. | 5 | 4 | 3 | 2 | 1 |
| 2. The simulated negotiation enabled me to evaluate the effectiveness of specific tactics. | 5 | 4 | 3 | 2 | 1 |
| 3. The simulated negotiation helped me focus on what were the real issues. | 5 | 4 | 3 | 2 | 1 |
| 4. The simulated negotiation helped me solidify my arguments. | 5 | 4 | 3 | 2 | 1 |
| 5. The simulated negotiation helped me identify issues that I had not previously identified. | 5 | 4 | 3 | 2 | 1 |
| 6. The simulated negotiation helped me formulate an improved line of inquiry. | 5 | 4 | 3 | 2 | 1 |
| 7. Based on the simulated negotiation, I changed my strategy and tactics going into the "actual" negotiation. | 5 | 4 | 3 | 2 | 1 |
| 8. Based on the simulated negotiation, I changed my minimum, maximum and objective targets. | 5 | 4 | 3 | 2 | 1 |
| 9. The simulated negotiation was an extremely valuable preparatory technique. | 5 | 4 | 3 | 2 | 1 |
| 10. I felt more comfortable with my strategy and tactics during the actual negotiation because I had already done the simulation. | 5 | 4 | 3 | 2 | 1 |

11. The simulated negotiation helped me anticipate questions.

5 4 3 2 1

12. The simulated negotiation helped me identify the seller's strengths and weaknesses coming into the actual negotiation.

5 4 3 2 1

13. The simulated negotiation improved my "overall" performance in the actual negotiation.

5 4 3 2 1

14. I would like to conduct more simulations in preparation for future contract negotiations.

5 4 3 2 1

15. How did the price you negotiated in the actual negotiation compare to the price negotiated in the simulation?

HIGHER LOWER DEADLOCK

If the actual negotiated price was higher, what do you believe accounted for the higher price?

If you did not reach an agreement, what do you think accounted for the impasse?

16. Compared to the simulation, do you feel that the individual in the actual negotiation was more, less, or equally skillful?

MORE LESS EQUALLY

17. What do you believe was the greatest strength of the simulated negotiation?

18. What do you believe was the greatest weakness of the simulated negotiation?

19. Compared to the simulation, how did you feel during the actual negotiation?

	MORE	EQUALLY	LESS
Confident	_____	_____	_____
Anxious	_____	_____	_____
Bored	_____	_____	_____
Relaxed	_____	_____	_____
Time Pressured	_____	_____	_____
Focused	_____	_____	_____
Prepared	_____	_____	_____
Resentful	_____	_____	_____
Motivated	_____	_____	_____
Creative	_____	_____	_____
Knowledgeable	_____	_____	_____
Frustrated	_____	_____	_____

20. Regardless of the price you negotiated in the actual negotiation, do you feel that you did a better job of negotiating because you had done the simulation?

YES NO

THANK YOU FOR YOUR PARTICIPATION!

RESEARCHER DEBRIEF WORKSHEET

Name _____

1. What was your general reaction to the simulated negotiation process?
2. How do you think the simulation helped you in the actual negotiation? (Ask for specifics)
3. What was your strategy going into the simulation?
4. Did you change your strategy going into the actual negotiation based on what happened during the simulation?

Yes No

If so, why?

How did you alter your strategy?
5. How would you compare the skill of the people you negotiated against?
6. How was your attitude different (if at all) upon entering the actual negotiation?
7. How did the simulated negotiation compare to the actual negotiation?

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